



# **San Mateo County Health Department**

## **Report on Overweight and Obesity in Children and Adolescents**

April 2006

**Prepared by**  
Epidemiology Unit  
County of San Mateo

Scott Morrow, M.D., M.P.H.  
Health Officer

Michael Greenburg, M.D., M.P.H.  
Assistant Health Officer

**Data Analysis and Synthesis**

Jeanne Rhee, Ph.D., M.P.H.  
Epidemiologist

Tracy M. Morton, M.P.H.  
Epidemiologist

Evelyn H. Tu, M.P.H.  
Epidemiologist

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## Executive Summary

The objective of this study was to evaluate the prevalence of overweight and obese children and adolescents in San Mateo County, in order to understand the magnitude of the problem and inform appropriate recommendations.

### Key Findings

- The overall prevalence of obese children and adolescents in San Mateo County in 2001 was 16.6%, which was slightly higher than the national prevalence of 16.0% in 1999-2002.
- An additional 17.7% of children and adolescents in San Mateo County in 2001 were overweight, bringing the total prevalence of overweight and obese to 34.3% in the county.
- There were racial/ethnic differences in the prevalence of overweight and obesity.
  - The lowest rates of overweight and obesity were in Asian (20.5%) and White (26.7%) children and adolescents.
  - Filipino (35.0%) youth had moderate rates of being overweight or obese.
  - African American (42.9%), Hispanic (43.3%), Pacific Islander (56.1%), and American Indian/Alaskan Native (54.3%) students had the highest rates of overweight and obesity.
- Low socioeconomic status was associated with increased prevalence of overweight and obese children and adolescents.

Addressing the overweight and obesity epidemic in our county's children and adolescents must be achieved through cooperative partnerships between public health, schools, local and state government, communities, and families. Each entity plays a significant role and must work together in order to have a penetrable effect.

## Introduction

In the past several decades, there has been a dramatic rise of overweight and obese individuals in the United States. More than 60% of American adults aged 20 years or more are overweight or obese, with 25% of American adults considered obese (1). Overweight and obesity are labels for ranges of weight that are greater than what is generally considered healthy for a given height (2). Overweight and obesity ranges are determined by using weight and height to calculate a number called the “body mass index” (BMI). BMI is used because, for most people, it correlates with their amount of body fat (2).

Overweight and obesity can lead to significant health problems and increase risk for serious medical conditions including Type II diabetes, heart disease, hypertension, and stroke (3). Being overweight or obese may also be associated with increased risk for certain types of cancer (4,5). In addition to physical health, being overweight or obese can affect the mental, emotional, and social health of individuals who suffer from it. Overweight and obesity have consequences on an individual’s overall quality of life.

Obesity also has a large economic impact. It was estimated in 2000 that physical inactivity, obesity, and overweight cost California an estimated \$21.7 billion per year (\$10.2 billion in direct and indirect medical care, \$338 million in workers’ compensation, and \$11.2 billion in lost productivity) (6). Six percent of national health care costs were attributed to obesity.

Obesity does not cause problems only in adults. The prevalence of obesity in American children and adolescents aged 6-19 years has risen from 5.0% in the 1960’s to 16.0% in 1999-2002 (7). There is growing concern about the increasing prevalence of children and adolescents who are overweight or obese.\* This increase has applied to children of all ages, sexes, and race/ethnicity, suggesting that overall changes in diet and physical activity are largely responsible for the epidemic (8). Access to healthy food and opportunities for physical activity are additional factors in the epidemic (9, 10).

Children and adolescents can not only suffer from the same obesity-related health problems as adults, but the development of health conditions early in life can lead to poor outcomes in terms of future health. Overweight children have a 1.5 to 2.0-fold greater risk of becoming overweight adults than normal weight children (11), with adolescence being the period of greatest risk for developing obesity in adulthood (12). In other words, overweight and obese children tend to become overweight and obese adults.

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\* The term *obese* is typically not used for children and adolescents. For children and adolescents, the word *overweight* is used instead of *obese* and the phrase *at risk for overweight* is used instead of *overweight*. For purposes of clarity, this distinction will not be made in this report, but the convention is acknowledged.

Obesity is a multi-factorial condition that is influenced by genetic, environmental, behavioral, psychological, and other factors such as underlying illnesses. However, the majority of obesity can be prevented with a healthful lifestyle that includes appropriate nutrition and physical activity.

Because weight loss in adulthood is difficult to achieve and maintain, prevention of overweight and obesity in childhood and adolescence is an optimal strategy to prevent overweight and obesity in adulthood, as well as prevention of the development of serious health-related consequences. Implementation of prevention methods during childhood may be more effective in reducing the risk for obesity during adolescence.

To develop effective prevention approaches, it is important to understand the prevalence of overweight and obese children and adolescents. This study evaluated the prevalence of overweight and obese children and adolescents in San Mateo County during the 2000-2001 academic year.

## **Methods**

### **Data Source**

The primary data used in this study were obtained from results of the 2001 California Physical Fitness Test (CPFT) (Education Data Systems, Morgan Hill, California). The CPFT is required for all students enrolled in grades five, seven, and nine in California public schools. There are three components of physical fitness that are measured by the CPFT: (1) aerobic capacity, (2) body composition, and (3) muscular strength, endurance, and flexibility.

### **Measurement of Obesity**

For the purposes of this report, body composition was the primary measure of obesity. Two options were available to schools to determine body composition: (1) skinfold measurements, which require the use of a caliper to measure body fat, and (2) body mass index, which provides an indication of a student's weight relative to his or her height. Although body mass index (BMI) is not as accurate an indicator of body composition, skinfold measurements are more difficult to obtain and ensure accuracy of measurement than weight and height. The majority of schools in San Mateo County measured weight and height for body composition.

BMI for individual students in the study was calculated according to the formula in Appendix A1. In adults, a BMI  $\geq 30$  is considered obese and a BMI  $\geq 25$  is considered overweight (2). These BMI measurements correspond to the 95th and 85th percentiles of the standard growth charts used in the medical field, respectively (13). In children and adolescents, the percentile measurements vary according to age and sex. The term *obese* is typically not used for children and adolescents. The Centers for Disease Control and Prevention uses the word "overweight" instead of "obese" and the phrase "at risk for overweight" instead of "overweight" when discussing body composition of children and adolescents (2). This distinction will not be made in this report. In this

report, a BMI between the 85th and 95th percentiles is considered *overweight*, and a BMI  $\geq$  95th percentile for a specific age and sex is considered *obese*.

### **Calculation of Body Mass Index**

To calculate BMI percentiles, z-scores for BMI were first calculated using the equation in Appendix A2. Z-scores allow for comparison across groups of children with different ages and sizes. To convert z-scores to BMI percentiles, the conversion equation in Appendix A3 was applied.

### **Data Analysis**

Demographic characteristics of overweight and obese students were evaluated for San Mateo County as a whole and also by school district. Demographic characteristics included age, grade level, sex, and race/ethnicity.

Relationships of overweight and obesity with socioeconomic status (SES) were also examined. Because SES for individual students was not available for this study, an ecological analysis was conducted using information on the school district level. Because eligibility for the federal Free or Reduced Price Meal Program is based on the income of the child's parent or guardian, the percent of students enrolled was a proxy for SES. Income guidelines for eligibility in the 2000-2001 program are shown in Appendix B. School district data on participation in the program were obtained for the academic year 2000-2001 from DataQuest (14).

### **Statistical Analysis**

Ninety-five percent confidence intervals (95%CI) were used to reflect the precision of the estimates. Chi-square ( $\chi^2$ ) values were calculated to evaluate differences between proportions of overweight or obese students across groups. P-values were calculated for the chi-squared values and considered statistically significant if  $p < 0.05$ . Bivariate logistic regression models were performed modeling overweight and obesity and potential risk factors that are associated with higher rates of being overweight or obese. Odds ratio estimates for bivariate analyses serve as an indicator of the increased (or decreased) odds of obesity given a comparison group. Nested multivariate models were also performed to adjust for multiple factors that could influence each other. These models, however, did not appreciably change the odds ratio estimates obtained from the bivariate models.

### **How to Read The Figures**

The large gray bars represent the proportion of students within a specific group and the thin t-bars represent the 95% CIs for those proportions. When the 95% CIs of various groups do not overlap, it can be interpreted that there is a statistically significant difference between the categories.

## **Limitations**

When reading this report, some caution must be taken before making definitive conclusions.

### **Representative Population**

This study aimed to assess the overweight and obesity problem for children and adolescents in San Mateo County. The data used to make this assessment, however, were limited to students in grades five, seven, and nine in the public school system. Children with alternative schooling (e.g., private schools, home schooling) are not included in the sample population. Furthermore, data from four school districts were not available for this analysis.

It is possible that the study population was somehow different from the underlying population and thus the results of this study may not apply directly to all children and adolescents in the county. Because the majority of children and adolescents in public school districts were included in this study, these differences were not believed to be significant and the study population was likely to be representative of the county's children and adolescents.

### **BMI**

The use of BMI as an indicator of overweight and obesity has multiple limitations. First, it is not a direct measure of fat mass as BMI cannot distinguish between lean muscle and adipose tissue. On an individual basis, it is possible that a very muscular person with little body fat may have the same BMI as an obese individual. BMI is, however, a good indicator of obesity when studying populations.

Second, adolescence (ages 10-19) is a time marked by unpredictable growth spurts that can mean different measurements of height and weight even by a difference of a day. Although the BMI-for-Age growth charts account for variability in BMI due to puberty, the BMI percentile measurement may be inaccurate for individual children who mature early or late (15).

Additionally, BMI does not measure the distribution of fat around the body. For example, the simple BMI measurement would not capture fat distribution in the abdominal region, which can increase risk for heart disease (16).

### **Variability in Measurement**

There was likely variability in measurement of height and weight. This variability would have occurred within schools and between schools. For example, there may have been slight differences in height measurement technique between individuals measuring height within one school or a particular school could have used an incorrectly calibrated weight scale throughout the administration of the CPFT. Systematic differences in measurement may have affected the results of the analyses in a biased, but unknown, manner.

Similar variations in measurement, or definition, were possible for demographic characteristics, fitness measures, and SES. For SES in particular, it is possible that not all eligible student families applied for and enrolled in the Free or Reduced Price Meal

Program and thus the enrollment figures may underestimate low SES families in the county.

### **Correlation Analyses**

There are two main limitations to correlation analyses. First, the analyses were based on aggregate data: ecologic analyses of obesity and SES and of obesity and physical fitness measures were conducted. On the individual level, it is possible that students had different characteristics than on the school district level. For example, it could be that students with a higher SES were more likely to be overweight or obese, but this is not reflected on the school district level.

Second, correlation is different from causation. When two variables are correlated, it may be incorrect to interpret that the condition of one variable causes the condition of another. It is possible that a third variable (a confounder) is affecting the relationship between the two correlated variables, with the third variable often being unknown or unmeasured. For example, in early studies of lung cancer, coffee drinking was found to be correlated with lung cancer. Upon further investigation, it was determined that coffee drinking was in fact a confounder; cigarette smokers were also more likely to be coffee drinkers.

Thus, when two variables are correlated, one can conclude only that there is a simple association with no direction or influence implied. Additionally, when two variables are not correlated, one cannot assume that there is no relationship between them – the relationship may be more complicated than can be observed on the simple level.

## **Results**

### **Study Population**

In San Mateo County, during the 2000-2001 academic year, there were 25,022 students enrolled in grades five, seven, and nine. The majority of students (85.1%) were enrolled in public schools. The breakdown by grade level and type of school is displayed in **Table 1**.

There were 18,202 student records in the 2001 CPFT data file, representing 85.5% of public school students in grades five, seven, and nine. Participation and reporting in San Mateo County was similar to the overall state participation and reporting of approximately 90.0% (17). **Table 2** shows a comparison of basic demographic characteristics of students participating in the CPFT and the overall enrollment figures. There were some slight differences between these two groups. Students in the younger grades were more likely to have been tested with the CPFT. There were also apparent racial/ethnic differences between enrolled and tested students. However, these differences may largely be explained by the differences in the race/ethnicity designations made by schools and school districts for different purposes. For example, it is evident that the proportion of students in the white, other/multiracial, and unknown categories were similar in both all-county (n=8,736, 4.0%) and CPFT students (n=8,194, 45.0%).

**Exclusion Criteria** Criteria for exclusion from analysis in this study were: (1) unrecorded grade, (2) unrecorded sex, (3) unrecorded date of birth, (4) unrecorded height, and (5) unrecorded weight. There were 4,067 (22.3%) records that were missing one or more of these data points. Additional exclusion criteria were based on aberrations due to irreconcilable or apparent data entry errors: (1) height < 42 inches or > 80 inches, (2) weight > 300 pounds, (3) weight < 50 pounds, (4) age < 84 months, and (5) z-score lying outside the range of -3.8 and 3.8.

In the CPFT data file, there were four school districts for which data specifically related to the outcome variables were unavailable. Because these whole districts were missing information, it may explain the differences seen in the characteristics between the all-county enrollment and CPFT participant groups. **Table 3** shows demographic characteristics of the 13,961 (76.6%) students who met the inclusion criteria for the study in comparison to the population of CPFT. The obesity study population did not differ significantly from the CPFT participants except that children in younger grades were more likely to have had BMI indicator measurements recorded on the CPFT than students in the higher grades.

**Table 4** shows age and physical characteristics of students in the study population. Of note is the mean BMI percentile for all grades (65.7) which was greater than the 50th-percentile, indicating that San Mateo County children and adolescents were more overweight or obese than the national reference population (50.0). **Figure A** illustrates the distribution of the BMI percentiles in the obesity study population. There was a shift towards the right of the curve, with more children and adolescents being overweight or obese, which was also seen with the nationwide population.

### **Prevalence of Overweight and Obese Students**

**By Grade** Overall, there were 2,323 (16.6%) obese children and adolescents in the county, which was slightly higher than the national prevalence. An additional 2,469 (17.7%) were overweight, again 1.7% higher than the national prevalence of children and adolescents at risk for obesity. There were more students in grade five (37.0%) who were either overweight or obese than those in grades seven (35.0%) and nine (30.1%) ( $\chi^2_{\text{trend}}=42.8$ ,  $p_{\text{trend}} < 0.01$ ) (**Table 5**). The proportion of children who were either overweight or obese does not differ significantly from grade to grade, but students were slightly more likely to be overweight than obese ( $p=0.003$ ) (**Table 6**).

The prevalence of overweight and obese children by school district for all grades are shown in **Table 7** and **Figures 7A-D**. The 95% CIs are also shown. When examining students whose BMI was  $\geq$  95th percentile (obese), there were four school districts that had a statistically higher prevalence of obesity than the overall San Mateo County prevalence (16.6%) and national prevalence (16.0%). When examining students who were overweight and obese, there were six school districts that had a statistically higher prevalence of overweight and obesity than the overall San Mateo County prevalence (34.3%). Corresponding figures and tables for students in grade five are shown in

**Table 8** and **Figures 8A-D** and, grade seven **Table 9** and **Figures 9A-D**, and grade nine in **Table 10** and **Figures 10A-D**.

**By Sex** Male students were more likely to be obese than female students (**Table 11**). The prevalence of overweight, however, was not significantly different between male and female students. This observation held for each grade level (**Tables 12-14**).

**By Race/Ethnicity** The prevalence of overweight and obese students in all grades by race/ethnicity is shown in **Figure 15-A**. American Indian/Alaskan Native students were more likely to be overweight or obese than Asian, Filipino, White, and multiracial students. The rate of overweight or obesity in American Indian/Alaskan Native students was not statistically different from African American, Hispanic, and Pacific Islander students. Conversely, Asian students were the least likely to be overweight or obese compared to students of all other races or ethnicities. **Table 16** shows the same information in a numeric format. Figures and tables for overweight and obese students separately, and by individual grade level are shown in **Tables 16-20** and **Figures 16-20**.

Racial and ethnic differences in prevalence of overweight and obese students were apparent in all grades. In general, the lowest prevalence of overweight and obesity was among Asian and White students. African American, American Indian/Alaskan Native, Hispanic, and Pacific Islander students had the highest rates of overweight and obesity.

#### **Risk Factors for Overweight and Obesity**

The odds of overweight or obesity were higher for younger students (grade five OR:1.37, 95%CI: 1.25,1.51; grade seven OR: 1.26, 95%CI: 1.14, 1.38) compared to those in grade nine (**Table 21**). Male students were 20% more likely to be overweight or obese than female students (OR: 1.22, 95%CI: 1.13, 1.31). Each racial category, except Asian, was associated with an increased odds of overweight or obesity compared to White students.

#### **Socioeconomic Status and Obesity**

Statistically significant correlations were found between overweight and obesity indicators and socioeconomic status (SES) for students in both grades five and seven with correlation coefficients ranging from 0.52 (moderate correlation) to 0.80 (strong correlation) (**Table 22**). The trend was similar for students in grade nine but not statistically significant, possibly due to the small number of school districts included in the study with students in grade nine. In general, low SES was associated with both increased prevalence of overweight students and obese students. Stronger associations were observed for obese students and SES than for overweight students. **Figures 22A-C** illustrate the scatterplots for SES and overweight and obese indicators for students in all grades.

## **Recommendations**

Overweight and obesity in American children and adolescents is a recognized health problem that is steadily increasing. In San Mateo County, 16.6% of children and

adolescents are obese, according to the data in this report (Table 5). A further 17.7% of students are overweight, or at risk of becoming obese in the future.

The health and economic burden due to overweight and obesity are likely to grow over time without effective prevention and intervention. Not only will the current generation of children become the most overweight and obese adult generation in the country's history, the increasing prevalence of overweight and obesity in children is likely to continue in subsequent generations. Overweight and obesity are avoidable, and therefore the health problems and costs associated with these conditions are also avoidable with effective prevention and intervention measures.

A large portion of the obesity problem can be attributed to a failure of public policy and a lack of understanding how a broad spectrum of public policy decisions affect an individual's weight. The task of reversing the overweight and obesity epidemic in our children and adolescents is a formidable one. Effectively addressing overweight and obesity in San Mateo County must be achieved through cooperative partnerships between public health, schools, local, state, and federal governments, communities, and families.

To that end, only by working together, can these entities change public policy and interrupt this trend. The public health department strongly recommends the development of strategic initiative involving all groups within the community to develop a plan to combat childhood obesity in this county and beyond.

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## Appendix

Data management, statistical calculations, conversions, and analyses of data were conducted using SAS software v8.02 (Cary, North Carolina) and EpiInfo v6.04d (Centers for Disease Control and Prevention, Atlanta, Georgia).

### Formulae used to calculate BMI and BMI percentiles

$$(1) \quad BMI = \left[ \frac{\text{Weight in pounds}}{(\text{Height in inches})^2} \right] \times 703$$

$$(2) \quad Z = \frac{\left( \left( \frac{BMI}{M} \right)^L \right) - 1}{LS} \quad \text{if } L \neq 0 \quad \text{or} \quad Z = \frac{\ln\left( \frac{BMI}{M} \right)}{S} \quad \text{if } L = 0$$

$$(3) \quad P = 1 - 1/\sqrt{2 * 3.14159265 * \exp(-(\text{ABS}(Z)**2)/2) * (0.4361836 * (1/(1+0.33267 * \text{ABS}(Z)))) - 0.1201676 * (1/(1+0.33267 * \text{ABS}(Z)))**2 + 0.937298 * (1/(1+0.33267 * \text{ABS}(Z)))**3)}$$

If  $Z > 0$  then Centile =  $P * 100$ ; else Centile =  $100 - P * 100$

Z is representative z-scores. The *LMS* parameters are statistical parameters referring to the median (*M*), the generalized coefficient of variation (*S*), and the power in the Box-Cox transformation (*L*) of the BMI calculation for a specific age and sex. Each student's age was calculated from recorded date of birth to April 1, 2001, the average time at which the CPFT was administered. The *LMS* parameters for BMI by age and sex were obtained from the Centers for Disease Control and Prevention (Kuczmarski RJ, Ogden CL, Guo SS, et al. 2000 CDC growth charts for the United States: Methods and development. National Center for Health Statistics, Vital Health Stat 11(246), 2002).

### **Income eligibility guidelines for federal Free or Reduced Price Meal Program, July 1, 2000-June 30, 2001**

Household Size	Weekly (\$)	Monthly (\$)	Annual (\$)
1*	298	1288	15448
2	401	1735	20813
3	504	2182	26128
4	607	2629	31543
5	710	3076	36908
6	813	3523	42273
7	917	3970	47638
8	1020	4417	53003
For each additional add:	104	448	5365

\* Household size of one indicates a child who is his/her own sole means of support

**Table 1**

**School Enrollment of Fifth, Seventh, and Ninth Graders<sup>1</sup>**  
**San Mateo County, 2000-2001 Academic Year**

<b>School Type</b>	<b>Grade 5 n (%)</b>	<b>Grade 7 n (%)</b>	<b>Grade 9 n (%)</b>	<b>All Grades<sup>2</sup> n (%)</b>
Public	7423 (84.4)	6896 (84.1)	6967 (86.8)	21286 (85.1)
Private	1372 (15.6)	1306 (15.9)	1058 (13.2)	3736 (14.9)
Total	8795	8202	8025	25022

<sup>1</sup> Source data: DataQuest

<sup>2</sup> *All grades* refers to grades five, seven, and nine together throughout this report

**Table 2**  
**Characteristics of Public School Students Enrolled in Grades Five, Seven, and Nine and Students Participating in the 2001 CFPT**  
**San Mateo County, 2000-2001 Academic Year**

Characteristic	San Mateo County <sup>1</sup> N=21,286	CFPT Students N = 18,202	<i>p</i> value
	N (%)	N (%)	
<u>Grade</u>			
5	7423 (34.9)	6874 (37.9)	< 0.01
7	6896 (32.4)	6518 (35.9)	< 0.01
9	6967 (32.7)	4763 (26.2)	< 0.01
Unknown	--	47	
<u>Sex</u>			
Male	11089 (52.1)	9425 (48.0)	0.87
Female	10197 (47.9)	8682 (52.0)	
Unknown	--	95	
<u>Race/Ethnicity</u>			
African American	1018 (4.8)	731 (4.4)	0.06
American Indian/Alaskan Native	58 (0.3)	59 (0.4)	0.1
Asian	2232 (10.5)	1770 (10.6)	0.75
Filipino	2026 (9.5)	1722 (10.3)	0.01
Hispanic	6501 (30.5)	5157 (30.8)	0.53
Pacific Islander	715 (3.4)	569 (3.4)	0.99
White	8460 (39.7)	5932 (35.4)	< 0.01
Other/Multiracial	276 (1.3)	813 (4.9)	< 0.01
Unknown	2	1449	

<sup>1</sup> Source data: DataQuest

<sup>2</sup> Unknown race/ethnicity for all-county figures are included in the Other/Multiracial category.

**Table 3**  
**Characteristics of Obesity Study Population and CFPT Students**  
**Excluding Four School Districts Without BMI Information**  
**San Mateo County, 2000-2001 Academic Year**

Characteristic	Obesity Study Population N = 13,961	CFPT Students w/o 4 districts N = 17,139	<i>p</i> value
	N (%)	N (%)	
<u>Grade</u>			
5	4849 (34.7)	6369 (37.2)	< 0.01
7	5110 (36.6)	6007 (35.1)	< 0.01
9	4002 (28.7)	4763 (27.8)	< 0.01
Unknown	--	43	
<u>Sex</u>			
Male	7234 (51.8)	8888 (52.0)	0.87
Female	6727 (48.2)	8199 (48.0)	
Unknown	--	95	
<u>Race/Ethnicity</u>			
African American	545 (4.2)	720 (4.6)	0.06
American Indian/Alaskan Native	46 (0.4)	59 (0.4)	0.1
Asian	1337 (10.3)	1604 (10.2)	0.75
Filipino	1441 (11.1)	1693 (10.7)	0.01
Hispanic	4139 (32.0)	5074 (32.2)	0.53
Pacific Islander	437 (3.4)	562 (3.6)	0.99
White	4366 (33.7)	5235 (33.2)	< 0.01
Other/Multiracial	630 (4.9)	809 (5.1)	< 0.01
Unknown	1020	1426	

<sup>1</sup> Source data: DataQuest

<sup>2</sup> Unknown race/ethnicity for all-county figures are included in the Other/Multiracial category.

## Table 4

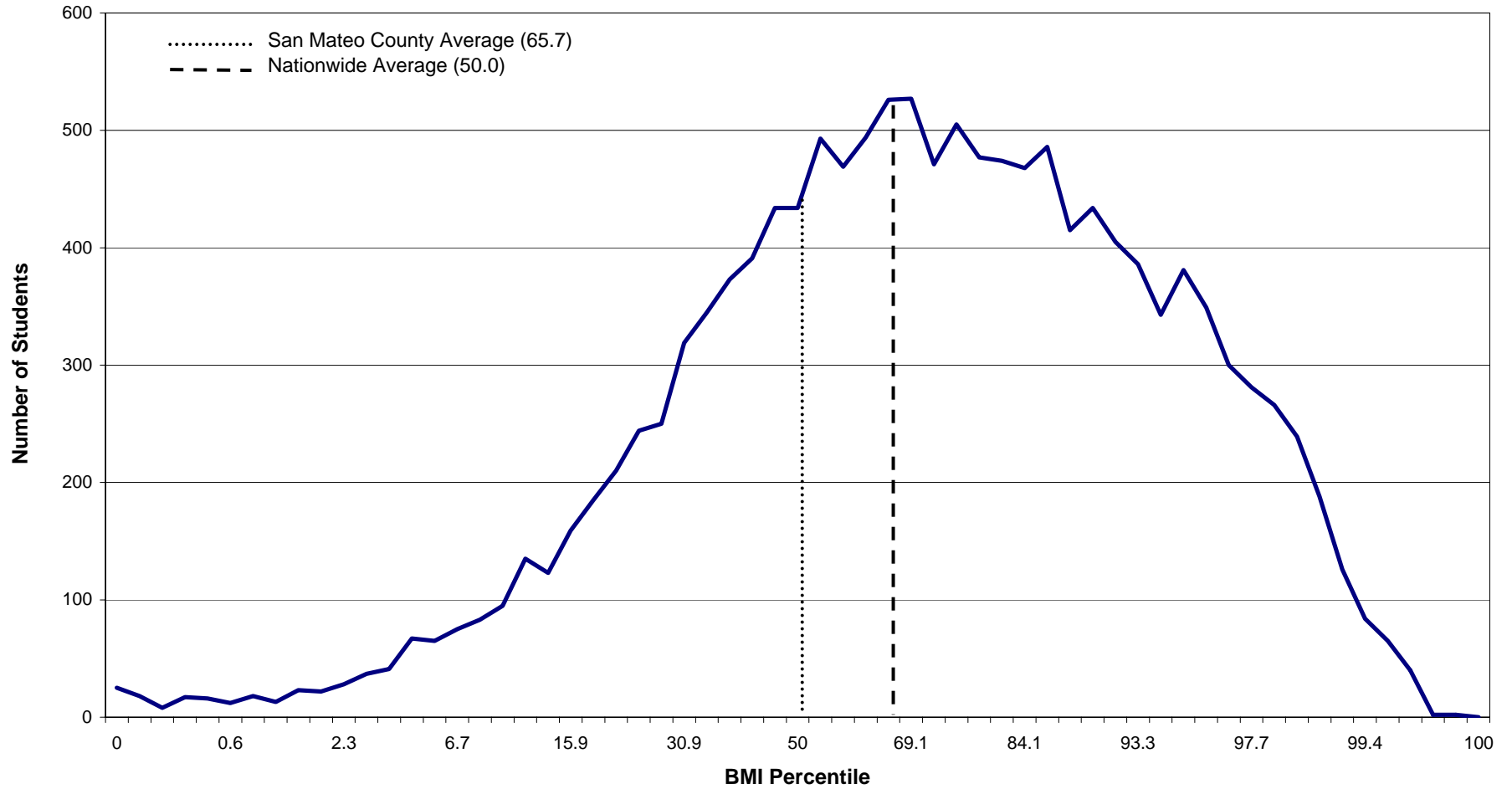
### Other Characteristics of Obesity Study Population San Mateo County, 2000-2001 Academic Year

Characteristic	Grade 5	Grade 7	Grade 9	All Grades <sup>1</sup>
<b>Age (months)</b>				
Mean (SD)	131.1 (4.7)	155.2 (4.8)	180.0 (5.9)	154.0 (20.1)
Range	94.8,163.3	120.0,183.0	141.8,219.0	94.8,219.0
<b>Height (inches)</b>				
Mean (SD)	57.6 (3.5)	62.3 (3.3)	65.4 (3.6)	61.5 (4.7)
Range	43.0,73.0	43.0,78.0	51.0,79.0	43.0,79.0
<b>Weight (pounds)</b>				
Mean (SD)	95.4 (25.3)	119.2 (30.8)	138.1 (33.1)	116.3 (34.3)
Range	50.0,265.0	56.0,277.0	67.0,297.0	50.0,297.0
<b>BMI</b>				
Mean (SD)	20.1 (4.3)	21.5 (4.6)	22.6 (4.6)	21.3 (4.6)
Range	12.1,48.5	12.5,47.8	13.5,49.3	12.1,49.3
<b>BMI Percentile</b>				
Mean (SD)	66.7 (28.8)	65.7 (28.3)	64.4 (27.6)	65.7 (28.3)
Range	0.0,99.9	0.0,99.9	0.0,99.9	0.0,99.9

<sup>1</sup> All grades refers to grades five, seven, and nine

**Figure A**

**Distribution of BMI Percentile in Obesity Study Population  
San Mateo County, 2000-2001 Academic Year**



**Table 5**

**Prevalence of Overweight and Obese Students By Grade  
San Mateo County, 2000-2001 Academic Year**

<b>Grade</b>	<b>Overweight</b>	<b>Obese</b>	<b>Either</b>
5	927 (19.1%)	866 (17.6%)	1793 (37.0%)
7	909 (17.8%)	879 (17.2%)	1788 (35.0%)
9	633 (15.8%)	578 (14.4%)	1211 (30.1%)
All grades <sup>1</sup>	2469 (17.7%)	2323 (16.6%)	4792 (34.3%)

<sup>1</sup> All grades refers to grades five, seven, and nine

**Table 6**

**Proportion of Students Overweight or Obese By Grade**  
**San Mateo County, 2000-2001 Academic Year**

<b>BMI Percentile Equivalent</b>	<b>Grade 5 n (%)</b>	<b>Grade 7 n (%)</b>	<b>Grade 9 n (%)</b>	<b>All Grades N</b>
Overweight	927 (51.7)	909 (50.8)	633 (52.3)	2469 (51.5)
Obese	866 (48.3)	879 (49.2)	578 (47.7)	2323 (48.5)
Total	1793	1788	1211	4792

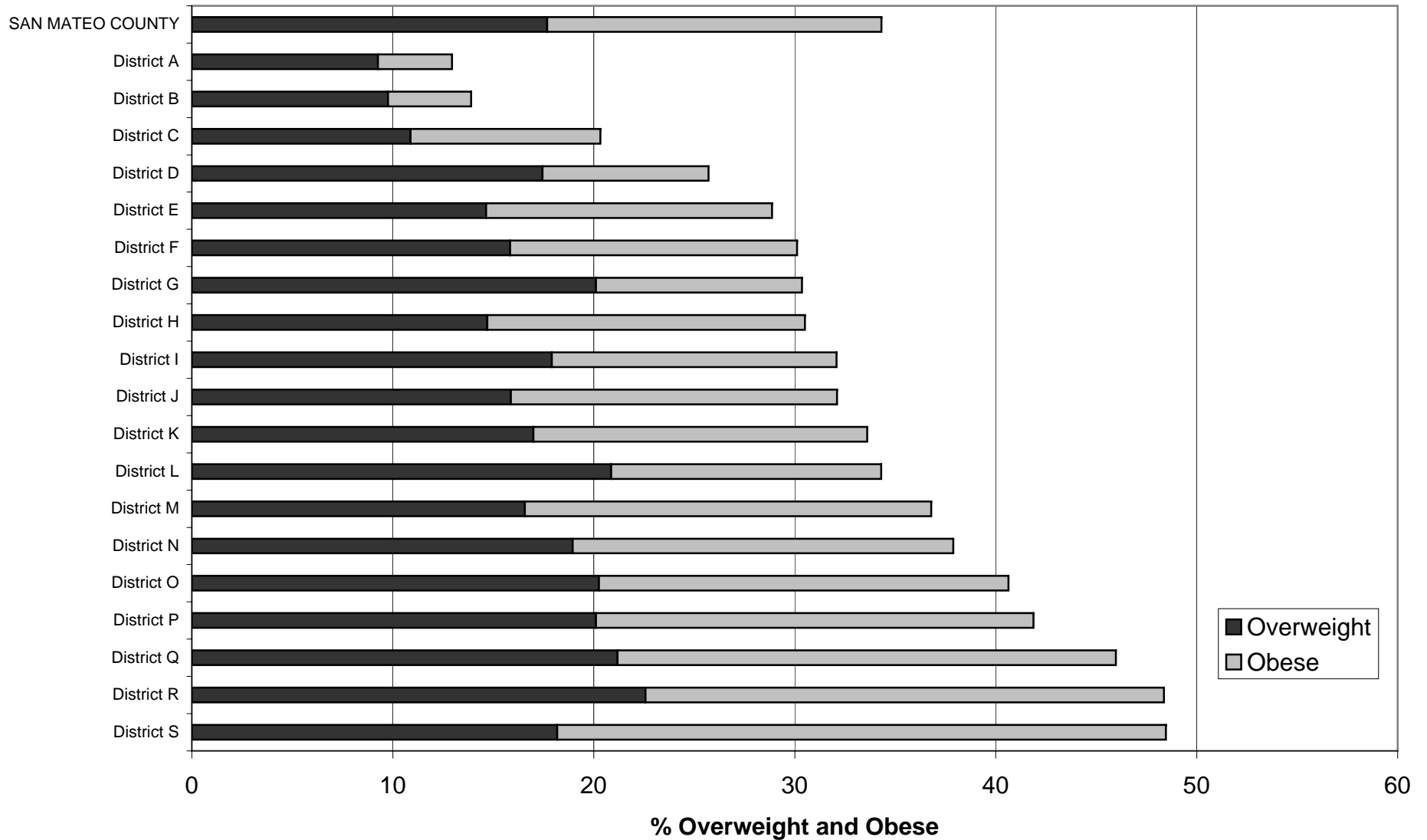
**Table 7**

**Overweight and Obese Students By School District, All Grades  
San Mateo County, 2000-2001 Academic Year**

School District	Overweight		Obese		Either	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
District A	-	9.3 (1.5,17.0)	-	3.7 (0.0,8.7)	-	13.0 (4.0,21.9)
District B	-	9.8 (6.6,12.9)	-	4.1 (2.0,6.3)	-	13.9 (10.2,17.6)
District C	-	10.9 (7.6,14.2)	-	9.5 (6.4,12.5)	-	20.3 (24.2,40.0)
District D	-	17.4 (13.9,21.0)	-	8.3 (5.7,10.8)	-	25.7 (21.7,29.8)
District E	-	14.6 (12.5,16.8)	-	14.2 (12.1,16.4)	-	28.9 (26.1,31.7)
District F	-	15.8 (13.9,17.7)	-	14.3 (12.5,16.1)	-	30.1 (27.7,32.5)
District G	-	20.1 (17.2,23.0)	-	10.3 (8.0,12.5)	-	30.4 (27.0,33.7)
District H	-	14.7 (10.5,18.9)	-	15.8 (11.5,20.1)	-	30.5 (25.0,36.0)
District I	-	17.9 (11.4,24.4)	-	14.2 (8.3,20.1)	-	32.1 (24.2,40.0)
District J	-	15.9 (13.7,18.1)	-	16.2 (14.0,18.5)	-	32.1 (29.3,34.9)
District K	-	17.0 (15.3,18.7)	-	16.6 (14.9, 18.3)	-	33.6 (31.5,35.8)
District L	-	20.9 (17.7,24.0)	-	13.4 (10.8,16.1)	-	34.3 (30.7,38.0)
District M	-	16.6 (12.7,20.4)	-	20.2 (16.1,24.4)	-	36.8 (31.8,41.8)
District N	-	19.0 (17.0,20.9)	-	19.0 (17.0,20.9)	-	37.9 (35.5,40.3)
District O	-	20.3 (18.2,22.3)	-	20.4 (18.3,22.4)	-	40.6 (38.1,43.1)
District P	-	20.1 (18.0,22.2)	-	21.8 (19.6,23.9)	-	41.9 (39.3,44.5)
District Q	-	21.2 (18.1,24.3)	-	24.8 (21.5,28.1)	-	46.0 (42.2,49.8)
District R	-	22.6 (12.2,33.0)	-	25.8 (14.9,36.7)	-	48.4 (35.9,60.8)
District S	-	18.2 (8.9,27.5)	-	30.3 (19.2,41.4)	-	48.5 (36.1,60.6)
SAN MATEO COUNTY	2469	17.7 (17.1,18.3)	2323	16.6 (16.0,17.3)	4792	34.3 (33.5,35.1)

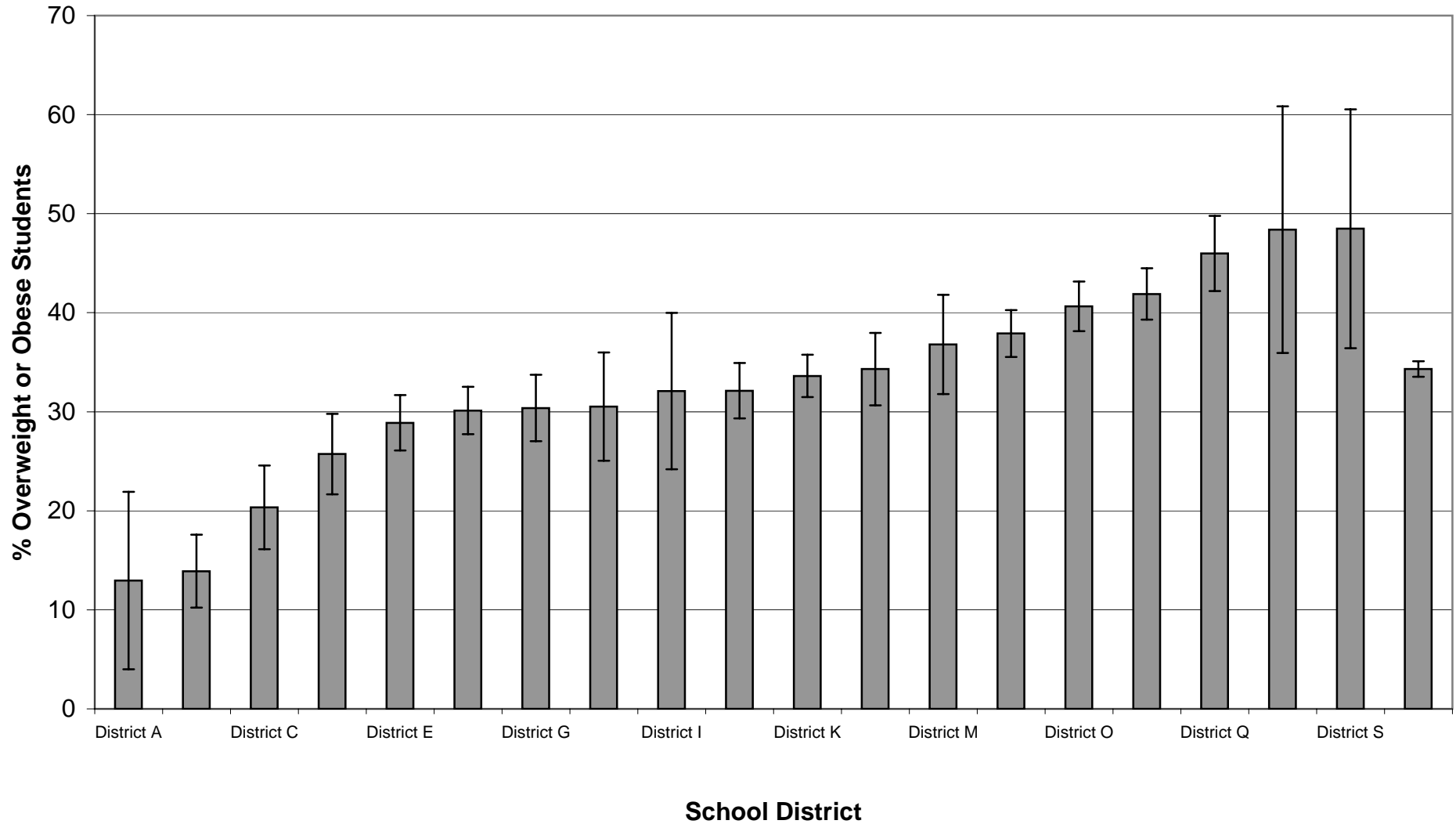
# Figure 7-A

## Overweight and Obese Students By School District San Mateo County, 2000-2001, All Grades



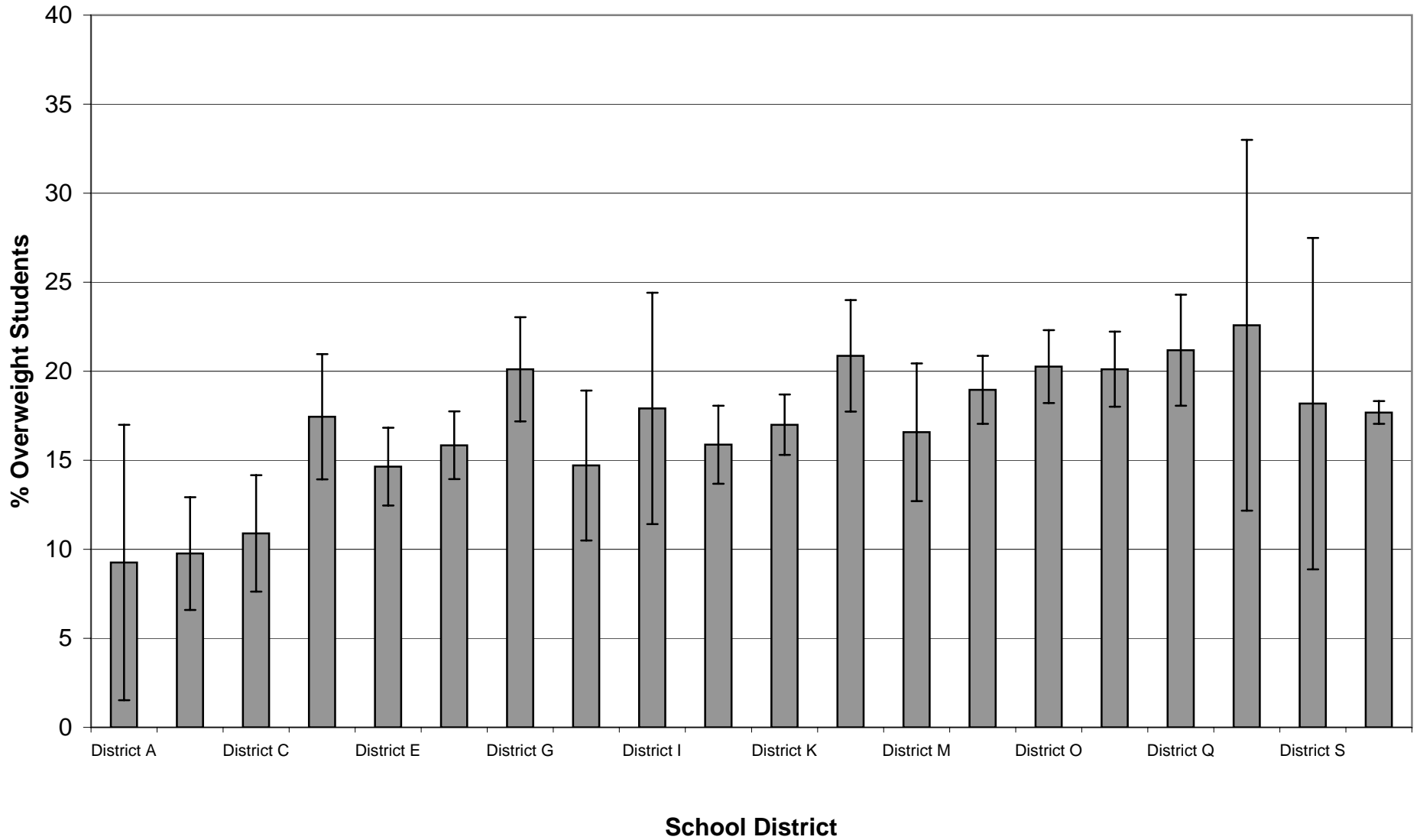
**Figure 7-B**

**Prevalence of Overweight or Obese Students By School District**  
**San Mateo County, 2000-2001, All Grades**



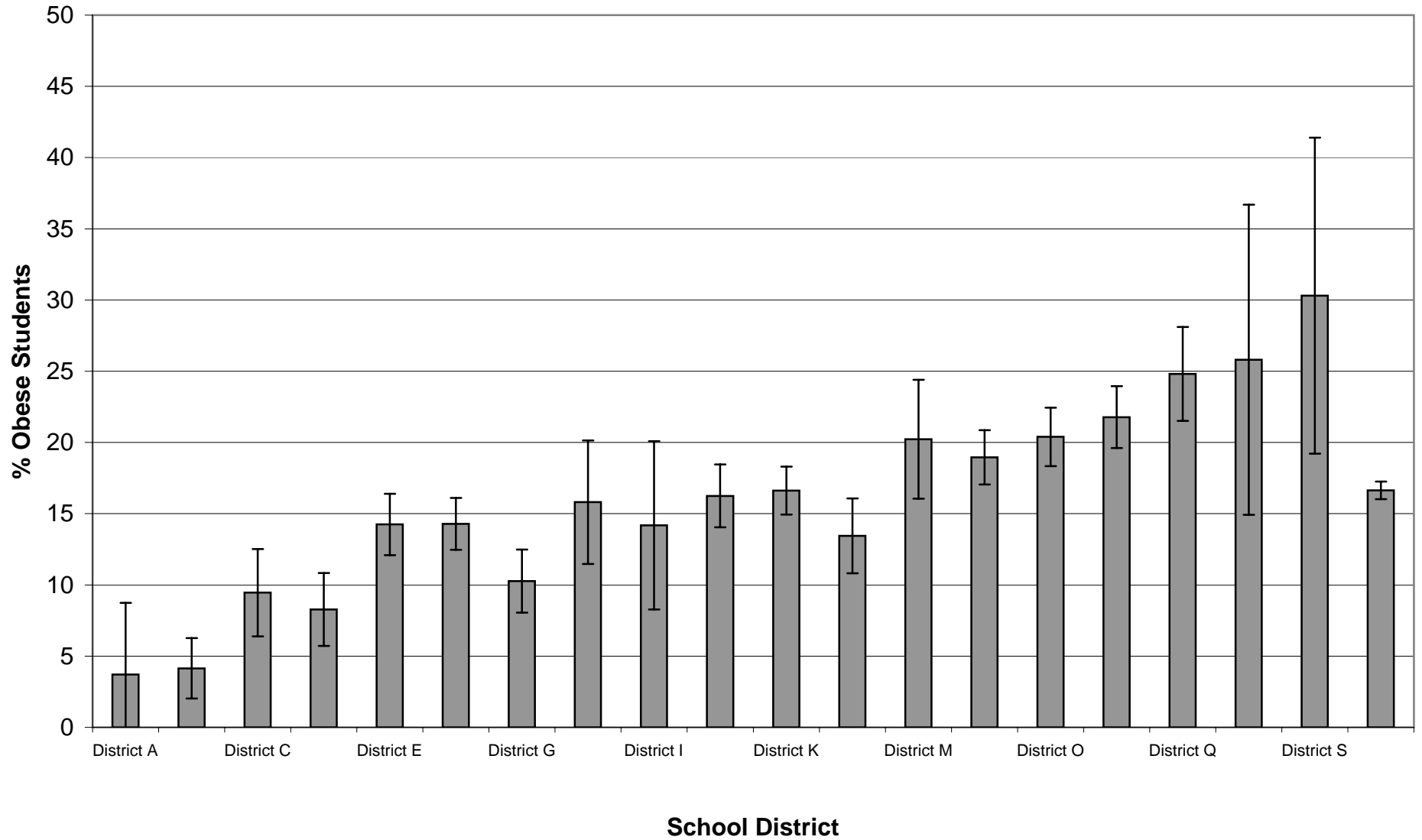
**Figure 7-C**

**Prevalence of Overweight Students By School District**  
San Mateo County, 2000-2001, All Grades



**Figure 7-D**

**Prevalence of Obese Students By School District**  
San Mateo County, 2000-2001, All Grades



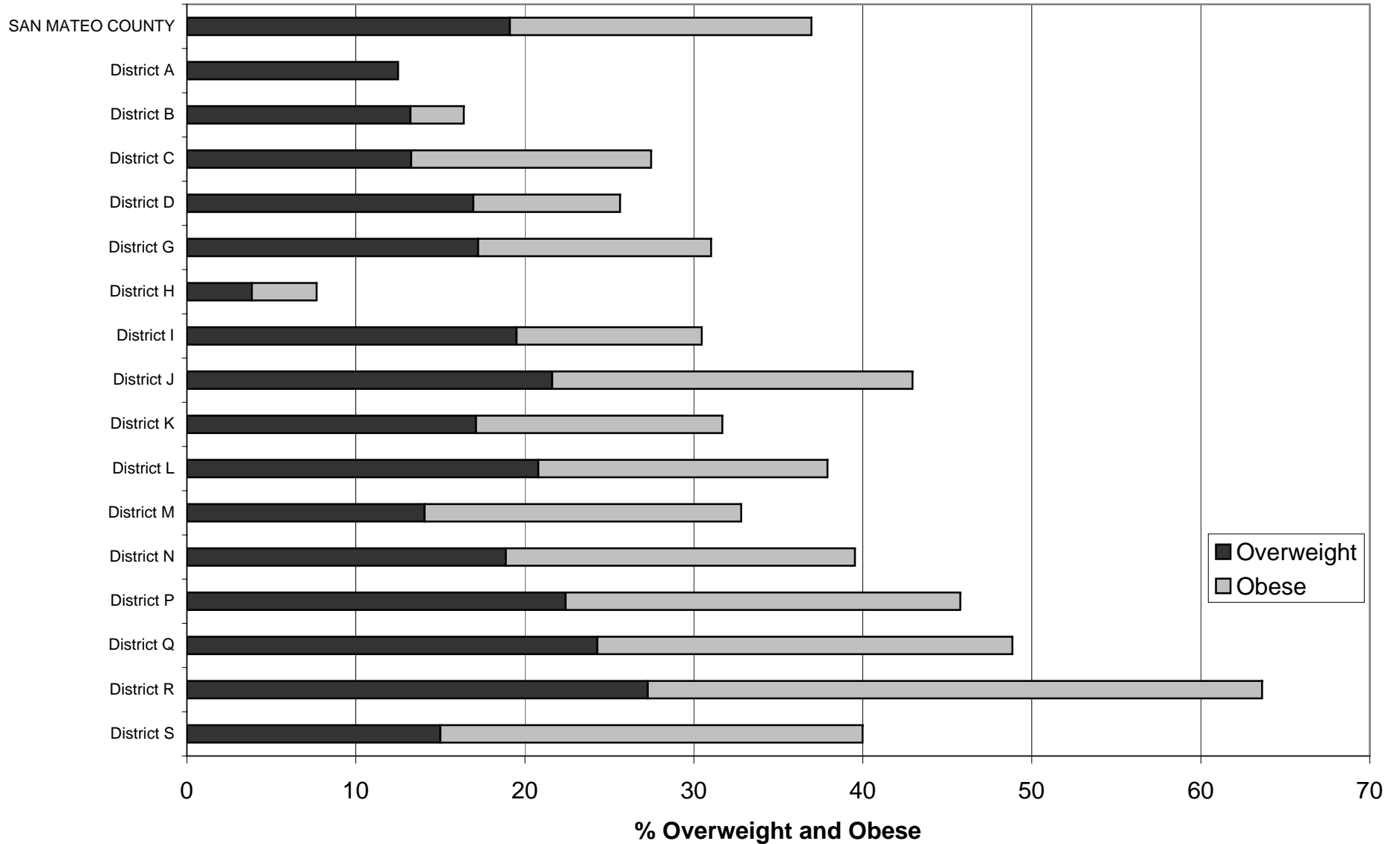
## Table 8

### Overweight and Obese Students By School District San Mateo County, 2000-2001 Academic Year, Grade 5

District	Overweight		Obese		Either	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
District A	-	12.5 (1.0,24.0)	-	-	-	12.5 (1.0,24.0)
District B	-	13.2 (8.4,18.0)	-	3.2 (0.7,5.7)	-	16.4 (11.1,21.7)
District C	-	13.3 (8.7,17.9)	-	14.2 (9.5,18.9)	-	27.5 (21.5,33.5)
District D	-	17.0 (12.2,21.8)	-	8.7 (5.1,12.3)	-	25.7 (20.1,31.3)
District G	-	17.2 (12.3,22.1)	-	13.8 (9.4,18.2)	-	31.0 (25.0,37.0)
District H	-	3.8 (0.0,11.2)	-	3.8 (0.0,11.2)	-	7.7 (0.0,17.9)
District I	-	19.5 (10.9,28.1)	-	11.0 (4.2,17.8)	-	30.5 (20.5,40.5)
District K	-	17.1 (14.6,19.6)	-	14.6 (12.3,16.9)	-	31.7 (28.6,34.8)
District L	-	20.8 (16.4,25.2)	-	17.1 (13.0,21.2)	-	37.9 (32.6,43.2)
District M	-	14.1 (5.6,22.6)	-	18.8 (9.2,28.4)	-	32.8 (21.3,44.3)
District N	-	18.9 (16.2,21.6)	-	20.7 (17.9,23.5)	-	39.5 (36.2,42.8)
District O	-	21.6 (18.6,24.6)	-	21.3 (18.3,24.3)	-	43.0 (39.4,46.6)
District P	-	22.4 (19.1,25.7)	-	23.4 (20.1,26.7)	-	45.8 (41.9,49.7)
District Q	-	24.3 (19.8,28.8)	-	24.6 (20.1,29.1)	-	48.9 (43.7,54.1)
District R	-	27.3 (1.0,53.6)	-	36.4 (8.0,64.8)	-	63.6 (35.2,92.0)
District S	-	15.0 (3.9,26.1)	-	25.0 (11.6,38.4)	-	40.0 (24.8,55.2)
SAN MATEO COUNTY	927	19.1 (18.0,20.2)	866	17.9 (16.8,19.0)	1793	37.0 (35.6,38.4)

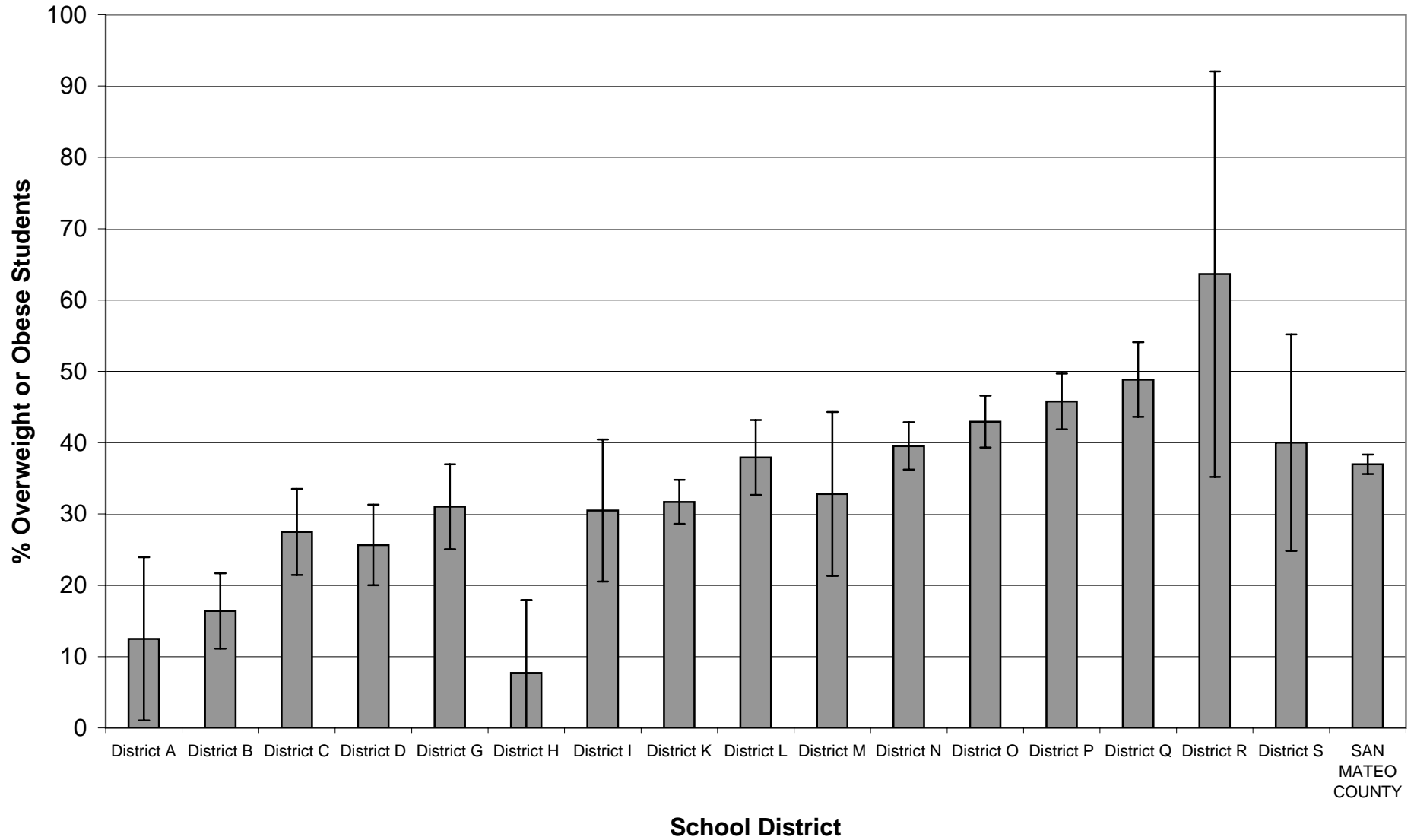
# Figure 8-A

## Overweight and Obese Students By School District San Mateo County, 2000-2001, Grade 5



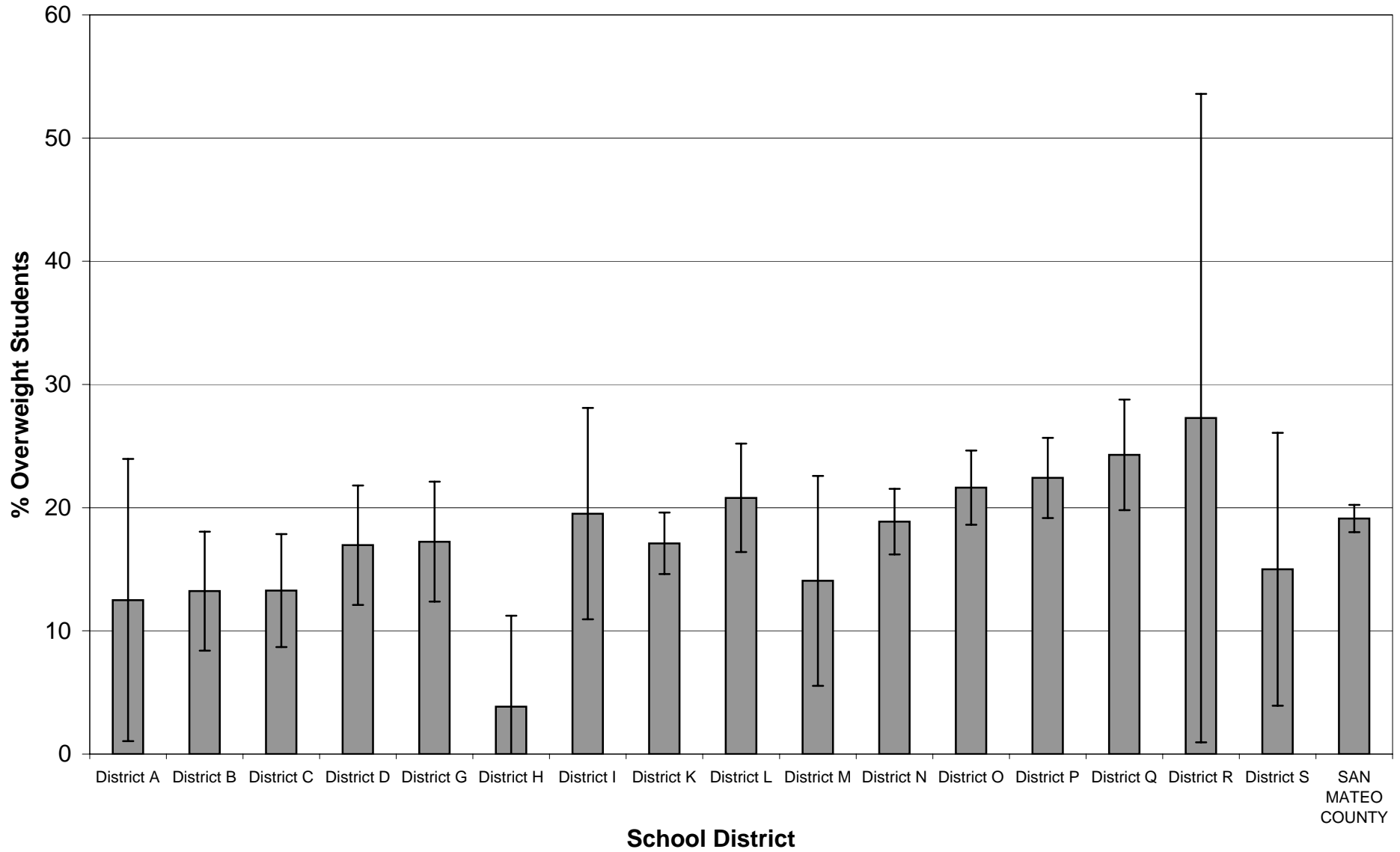
**Figure 8-B**

**Prevalence of Overweight or Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 5**



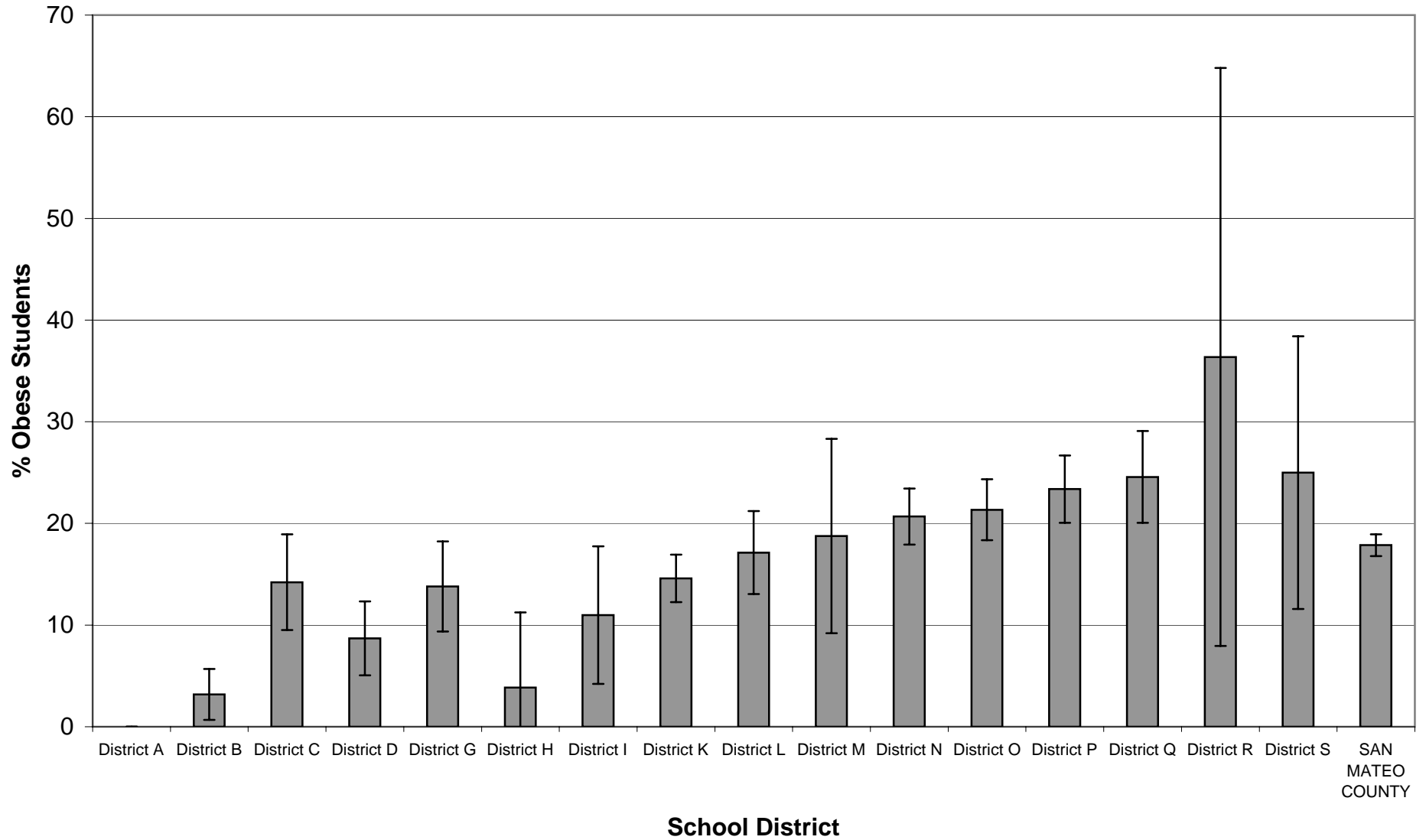
**Figure 8-C**

**Prevalence of Overweight Students By School District**  
**San Mateo County, 2000-2001, Grade 5**



**Figure 8-D**

**Prevalence of Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 5**



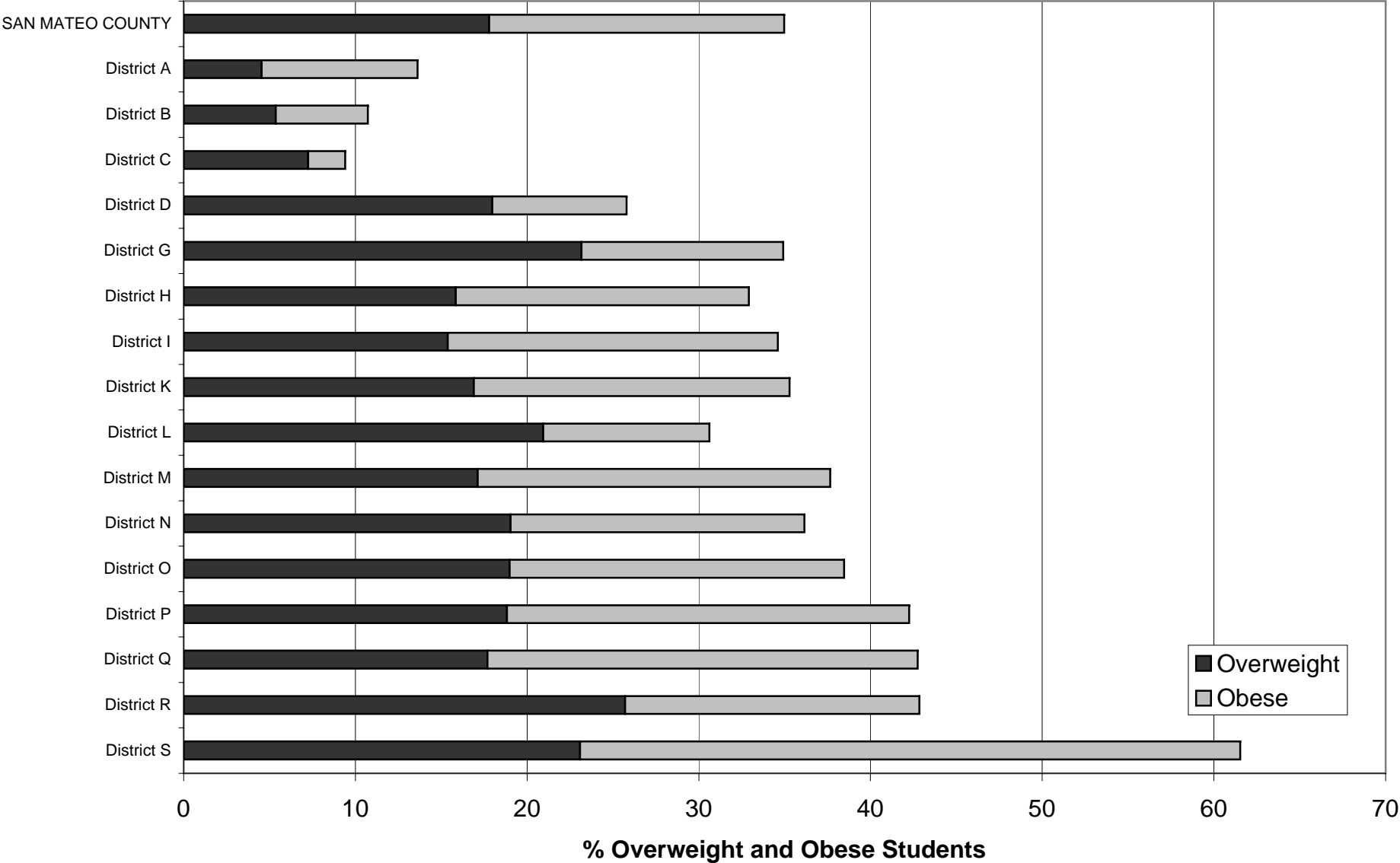
**Table 9**

**Overweight and Obese Students By School District  
San Mateo County, 2000-2001 Academic Year, Grade 7**

District	Overweight		Obese		Either	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
District A	-	4.5 (0.0,13.2)	-	9.1 (0.0,21.1)	-	13.6 (0.0,28.0)
District B	-	5.4 (1.7,9.0)	-	5.4 (1.7,9.0)	-	10.7 (5.8,15.7)
District C	-	7.2 (2.9,11.6)	-	2.2 (0.0,4.6)	-	9.4 (4.5,14.3)
District D	-	18.0 (12.9,23.1)	-	7.8 (4.3,11.4)	-	25.8 (20.0,31.6)
District G	-	23.2 (18.1,28.2)	-	11.8 (7.9,15.6)	-	34.9 (29.3,40.6)
District H	-	15.9 (11.3,20.4)	-	17.1 (12.4,21.8)	-	32.9 (27.1,38.8)
District I	-	15.4 (5.6,25.2)	-	19.2 (8.5,29.9)	-	34.6 (21.7,47.5)
District K	-	16.9 (14.6,19.2)	-	18.4 (16.0,20.8)	-	35.3 (32.3,38.3)
District L	-	20.9 (16.5,25.4)	-	9.7 (6.4,12.9)	-	30.6 (25.6,35.7)
District M	-	17.1 (12.8,21.4)	-	20.5 (15.9,25.2)	-	37.7 (32.1,43.2)
District N	-	19.0 (16.3,21.8)	-	17.1 (14.5,19.8)	-	36.2 (32.8,39.5)
District O	-	19.0 (16.2,21.8)	-	19.5 (16.7,22.3)	-	38.5 (35.0,41.9)
District P	-	18.8 (15.3,22.3)	-	23.4 (19.6,27.2)	-	42.3 (37.8,46.7)
District Q	-	17.7 (13.4,21.9)	-	25.1 (20.3,29.9)	-	42.8 (37.3,48.3)
District R	-	25.7 (11.2,40.2)	-	17.1 (4.7,29.6)	-	42.9 (26.5,59.3)
District S	-	23.1 (6.9,39.3)	-	38.5 (19.8,57.2)	-	61.5 (42.8,80.2)
SAN MATEO COUNTY	909	17.8 (16.7,18.8)	879	17.2 (16.2,18.2)	1788	35.0 (33.7,36.3)

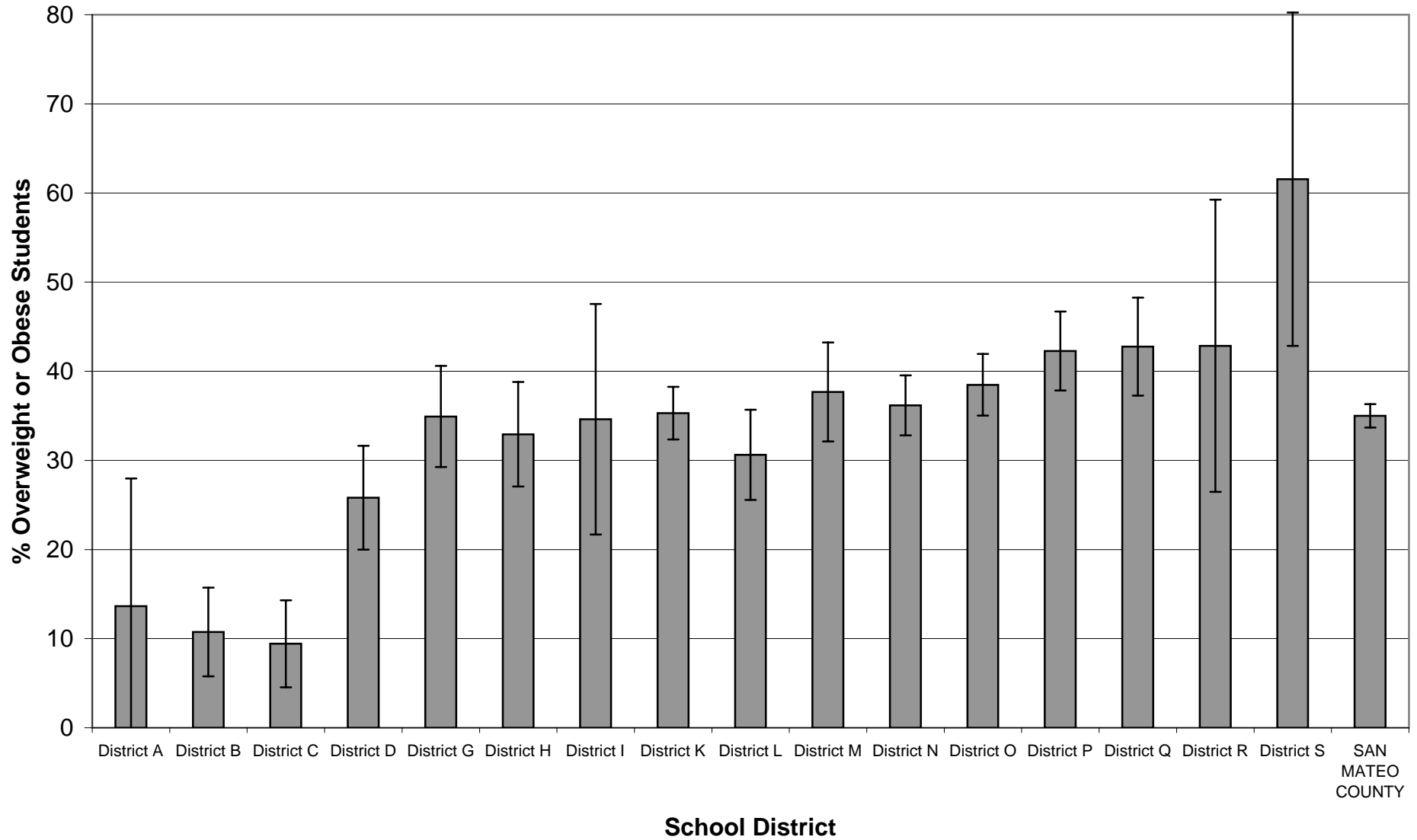
**Figure 9-A**

**Overweight and Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 7**



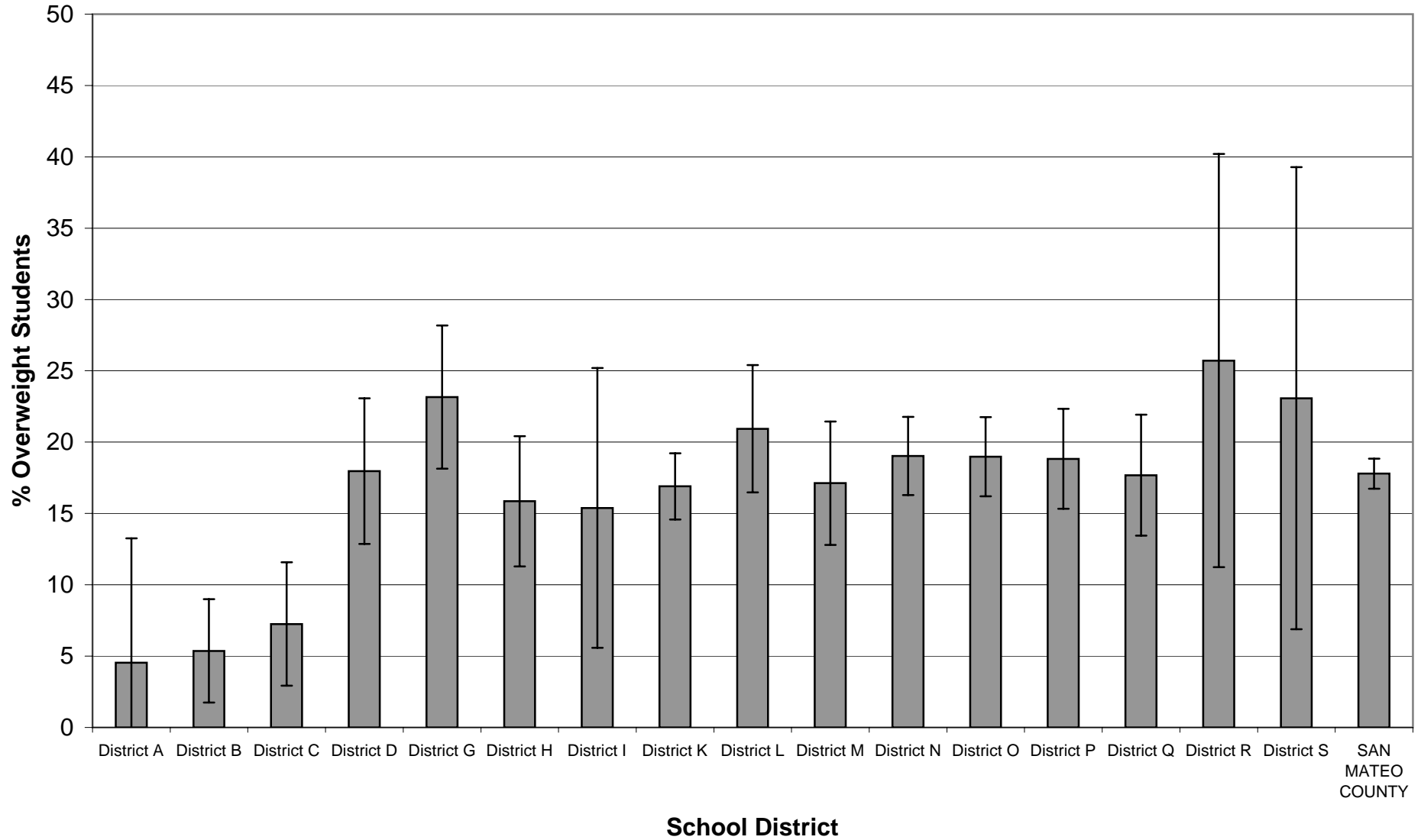
**Figure 9-B**

**Prevalence of Overweight or Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 7**



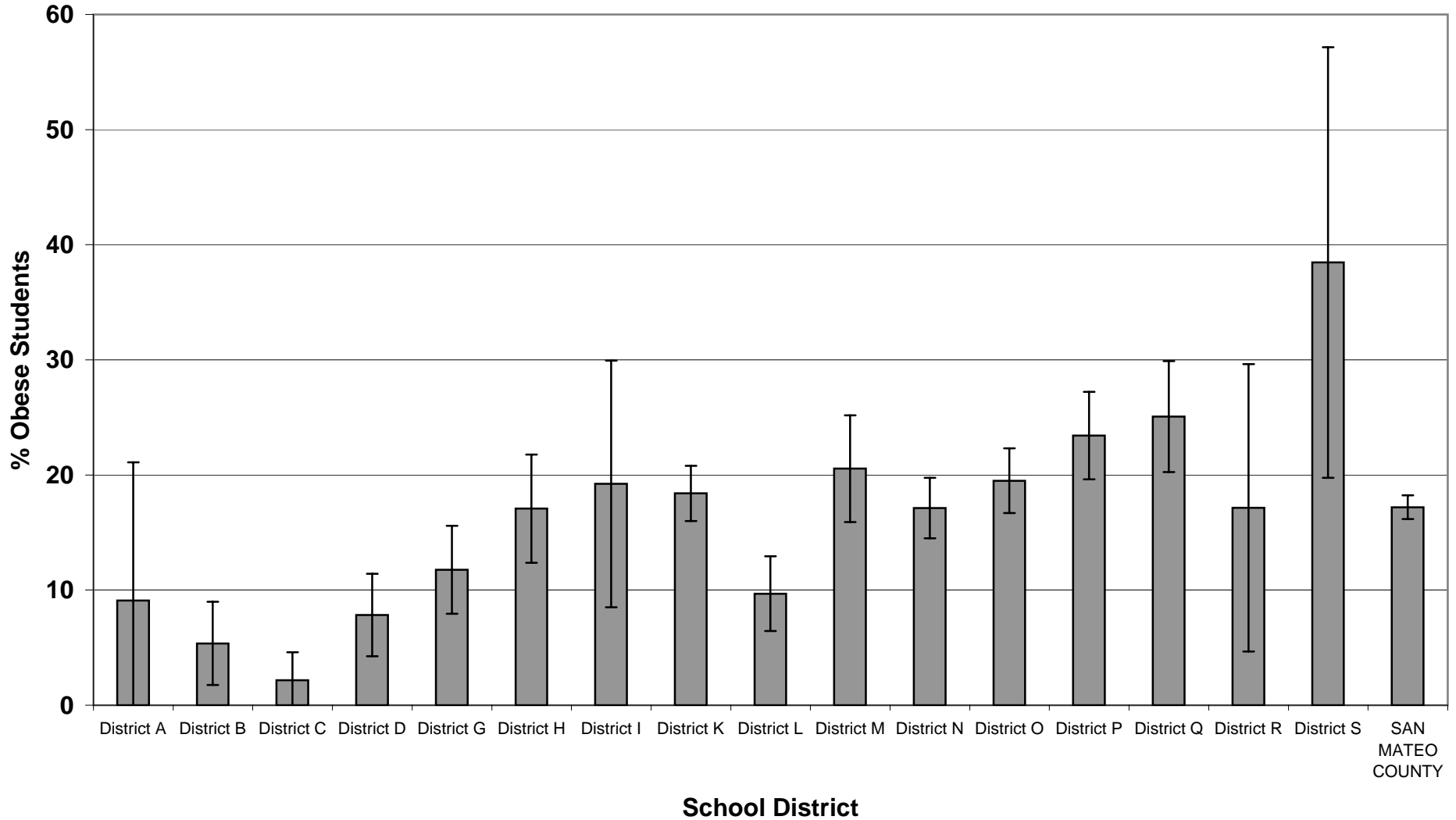
**Figure 9-C**

**Prevalence of Overweight Students By School District**  
**San Mateo County, 2000-2001, Grade 7**



**Figure 9-D**

**Prevalence of Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 7**



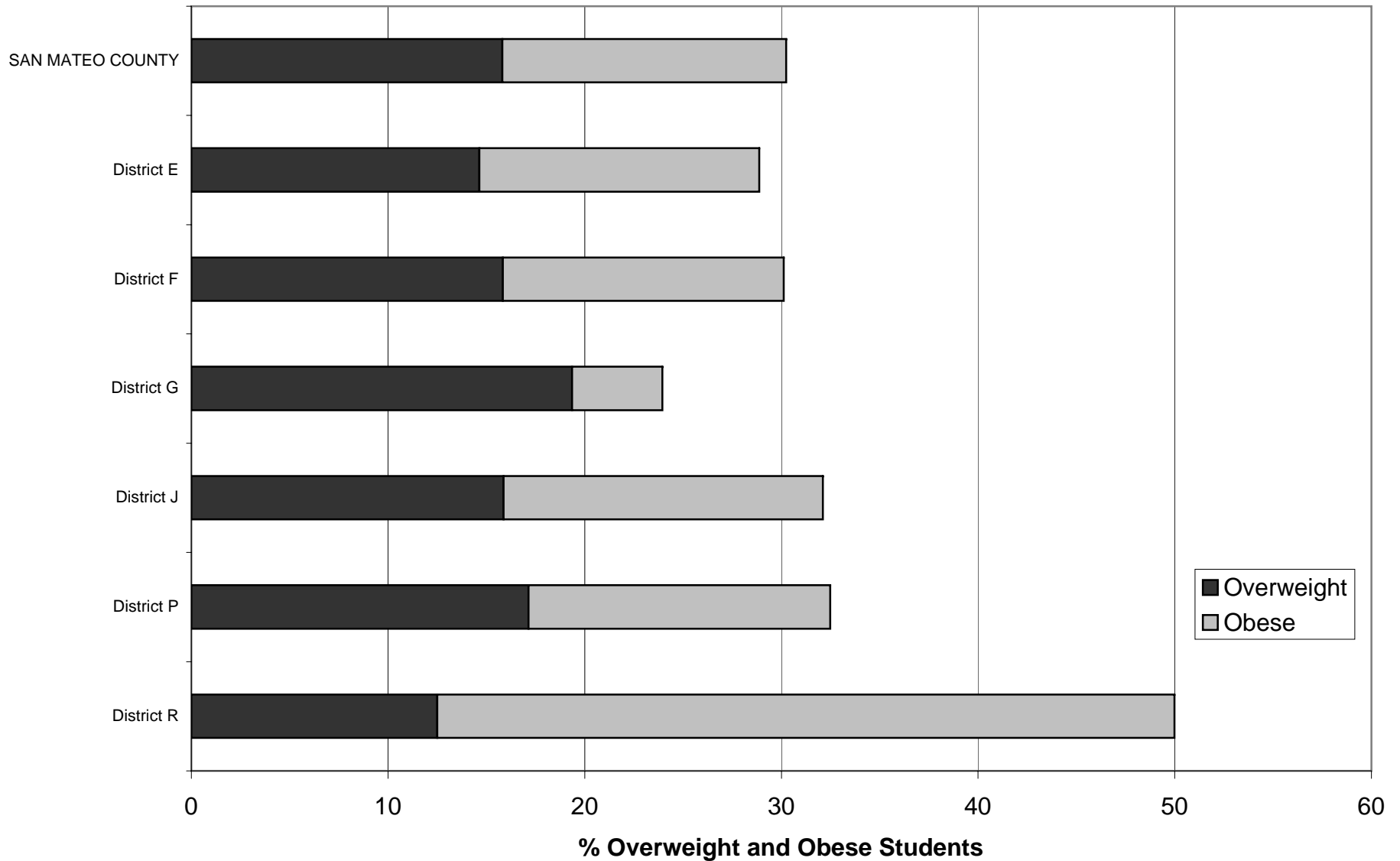
**Table 10**

**Overweight and Obese Students By School District  
San Mateo County, 2000-2001 Academic Year, Grade 9**

District	Overweight		Obese		Either	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
District E	-	14.6 (12.5,16.8)	-	14.2 (12.1,16.4)	-	28.9 (26.1,31.7)
District F	-	15.8 (13.9,17.7)	-	14.3 (12.5,16.1)	-	30.1 (27.7,32.5)
District G	-	19.4 (14.1,24.6)	-	4.6 (1.8,7.4)	-	24.0 (18.3,29.6)
District J	-	15.9 (13.7,18.1)	-	16.2 (14.0,18.5)	-	32.1 (29.3,34.9)
District P	-	17.1 (12.7,21.6)	-	15.4 (11.1,19.6)	-	32.5 (27.0,38.0)
District R	-	12.5 (0.0,28.7)	-	37.5 (13.8,61.2)	-	50.0 (25.5,74.5)
SAN MATEO COUNTY	633	15.8 (14.7,16.9)	578	14.4 (13.4,15.5)	1211	30.3 (28.8,31.7)

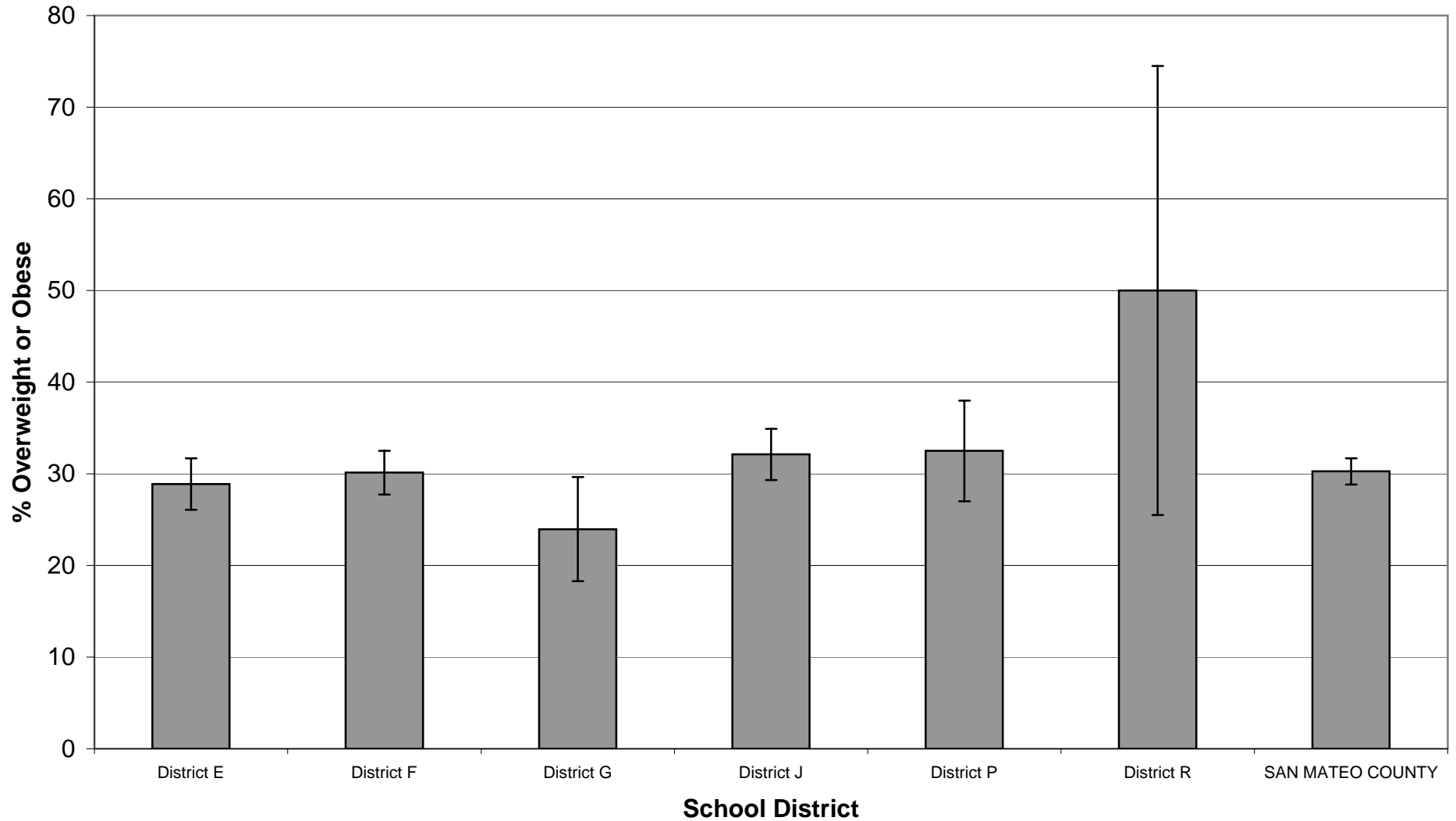
**Figure 10-A**

**Overweight and Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 9**



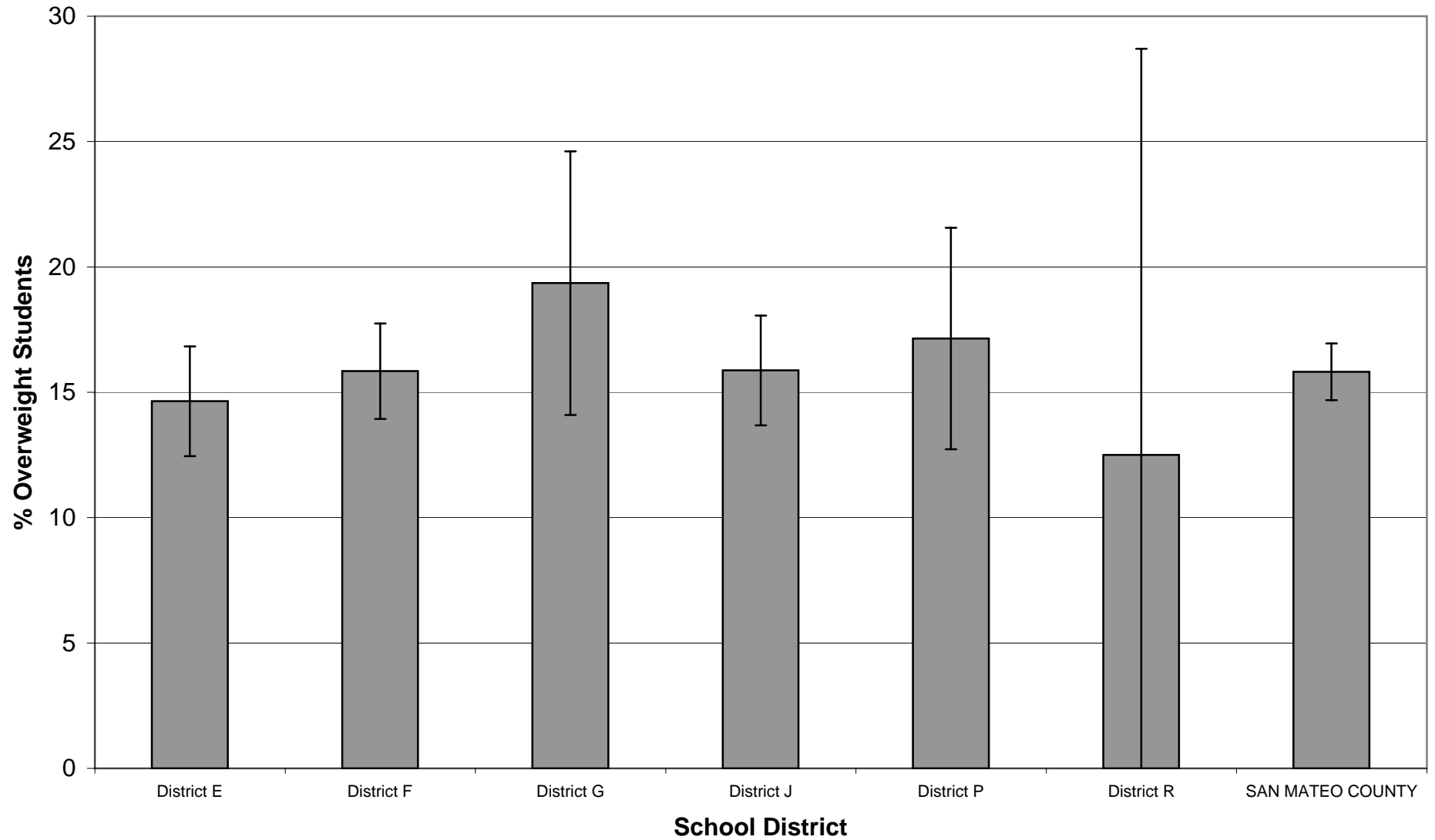
**Figure 10-B**

**Prevalence of Overweight or Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 9**



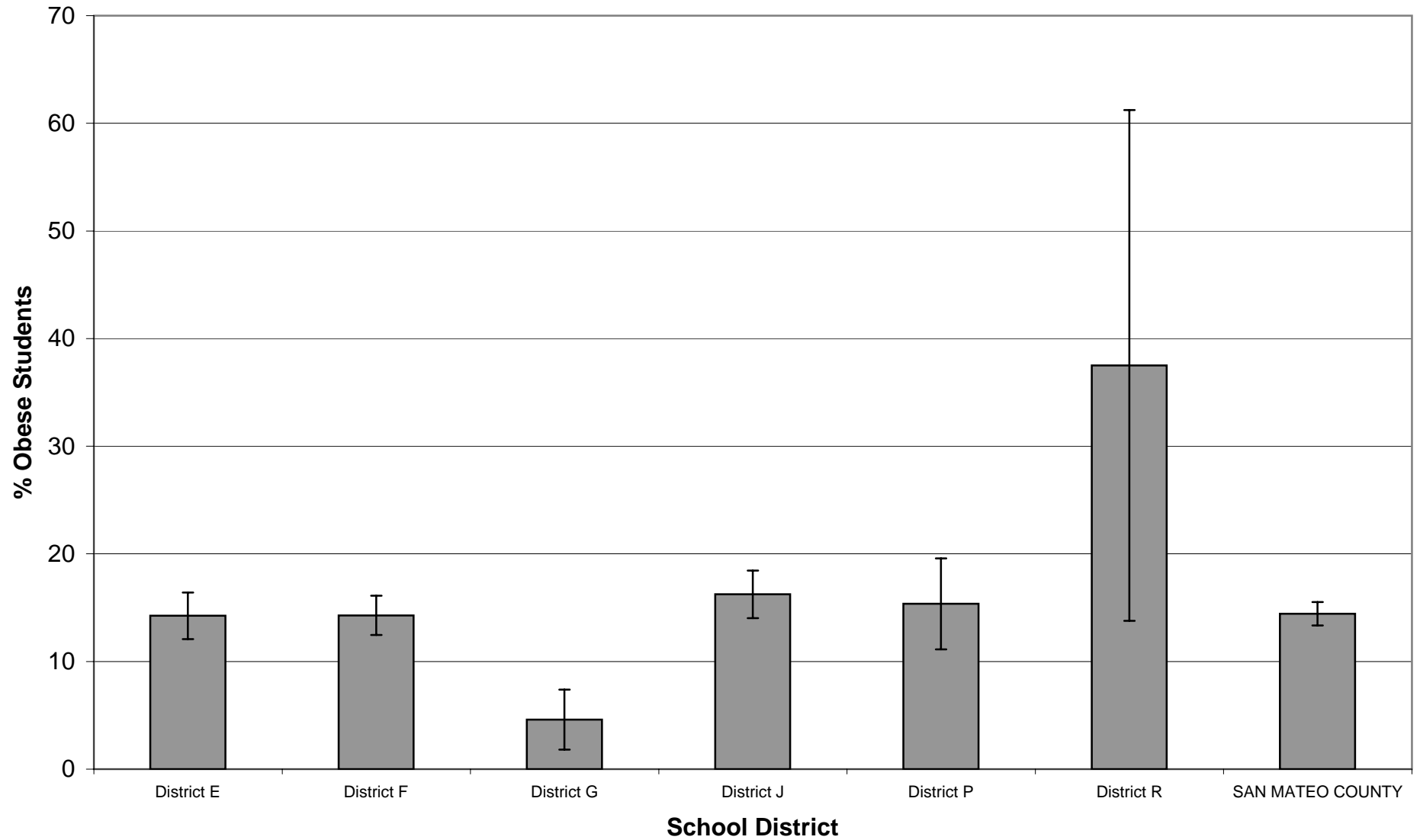
**Figure 10-C**

**Prevalence of Overweight Students By School District**  
**San Mateo County, 2000-2001, Grade 9**



**Figure 10-D**

**Prevalence of Obese Students By School District**  
**San Mateo County, 2000-2001, Grade 9**



**Table 11**

**Overweight and Obese Students By Sex**  
**San Mateo County, 2000-2001 Academic Year, All Grades**

	<b>Male</b> <b>N = 7,234</b> n (%)	<b>Female</b> <b>N = 6,727</b> n (%)	<b>p value</b>
Overweight	1257 (17.4)	1212 (18.0)	0.35
Obese	1384 (19.1)	939 (14.0)	< 0.01
Overweight or Obese	2641 (36.5)	2151 (32.0)	< 0.01

**Table 12**

**Overweight and Obese Students By Sex**  
**San Mateo County, 2000-2001 Academic Year, Grade 5**

	<b>Male</b> <b>N = 2,489</b> n (%)	<b>Female</b> <b>N = 2,360</b> n (%)	<b>p value</b>
Overweight	487 (19.6)	440 (18.6)	0.37
Obese	514 (20.7)	352 (14.9)	< 0.01
Overweight or Obese	1001 (40.2)	792 (33.6)	< 0.01

**Table 13**

**Overweight and Obese Students By Sex**  
**San Mateo County, 2000-2001 Academic Year, Grade 7**

	<b>Male</b> <b>N = 2,665</b> n (%)	<b>Female</b> <b>N = 2,445</b> n (%)	<b>p value</b>
Overweight	452 (17.0)	457 (18.7)	0.11
Obese	520 (19.5)	359 (14.7)	< 0.01
Overweight or Obese	972 (36.5)	816 (33.4)	0.02

**Table 14**

**Overweight and Obese Students By Sex**  
**San Mateo County, 2000-2001 Academic Year, Grade 9**

	<b>Male</b> <b>N = 2,080</b> n (%)	<b>Female</b> <b>N = 1,992</b> n (%)	<b>p value</b>
Overweight	318 (15.3)	315 (16.4)	0.32
Obese	350 (16.8)	228 (11.9)	< 0.01
Overweight or Obese	668 (32.1)	543 (28.3)	0.01

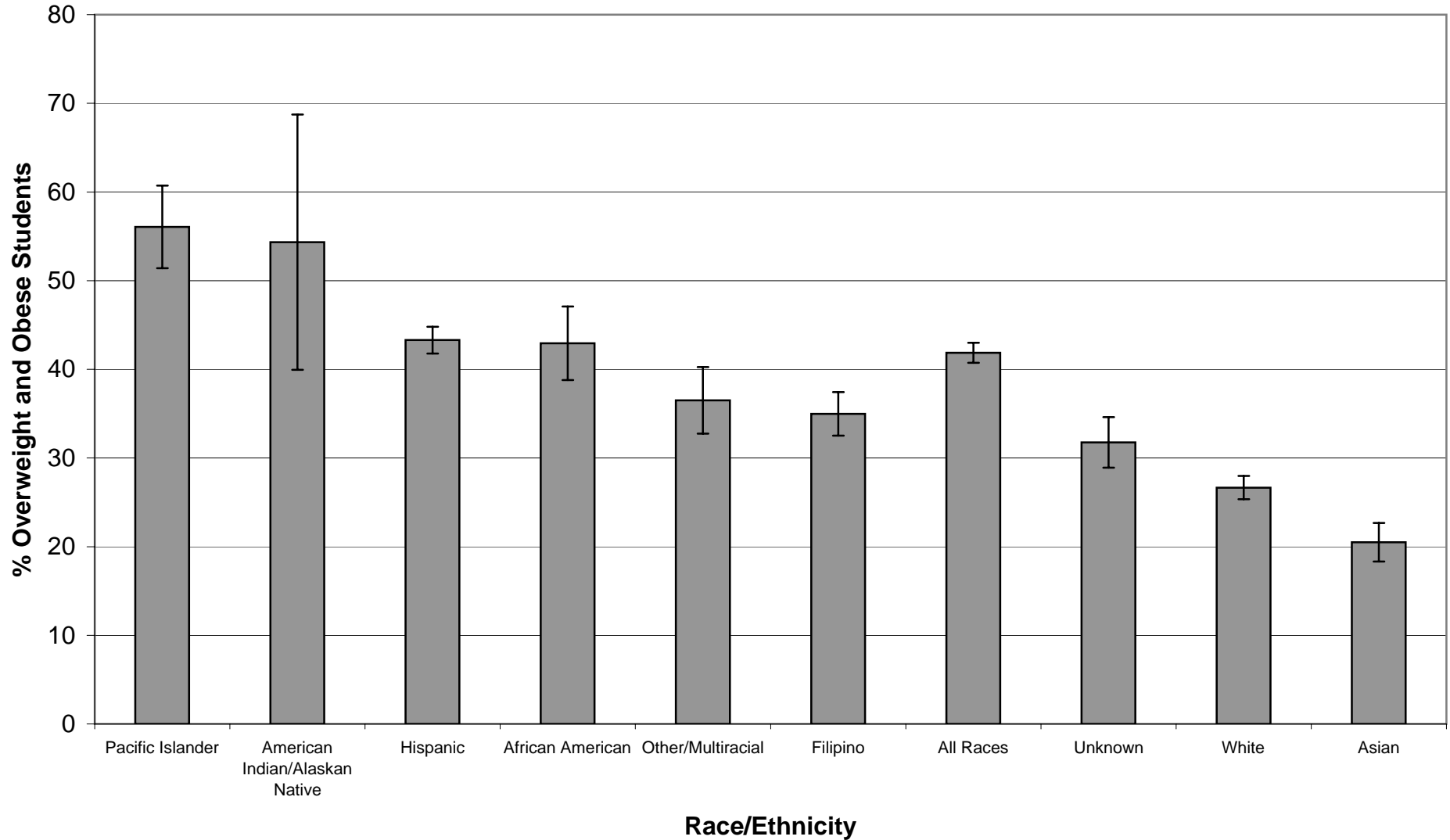
**Table 15**

**Prevalence of Overweight and Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, All Grades**

<b>Race/Ethnicity</b>	<b>Total Students N</b>	<b>Overweight and Obese Students n</b>	<b>% Overweight and Obese (95% CI)</b>
African American	545	234	42.9 (38.8,47.1)
American Indian/Alaskan Native	46	25	54.3 (40.0,68.7)
Asian	1337	274	20.5 (18.3,22.7)
Filipino	1441	504	35.0 (32.5,37.4)
Hispanic	4139	1792	43.3 (41.8,44.8)
Pacific Islander	437	245	56.1 (51.4,60.7)
White	4366	1164	26.7 (25.3,28.0)
Other/Multiracial	630	230	36.5 (32.7,40.3)
Unknown	1020	324	31.8 (28.9,34.6)
All Races	13961	4792	34.3 (33.5,35.1)

**Figure 15-A**

**Prevalence of Overweight and Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, All Grades**



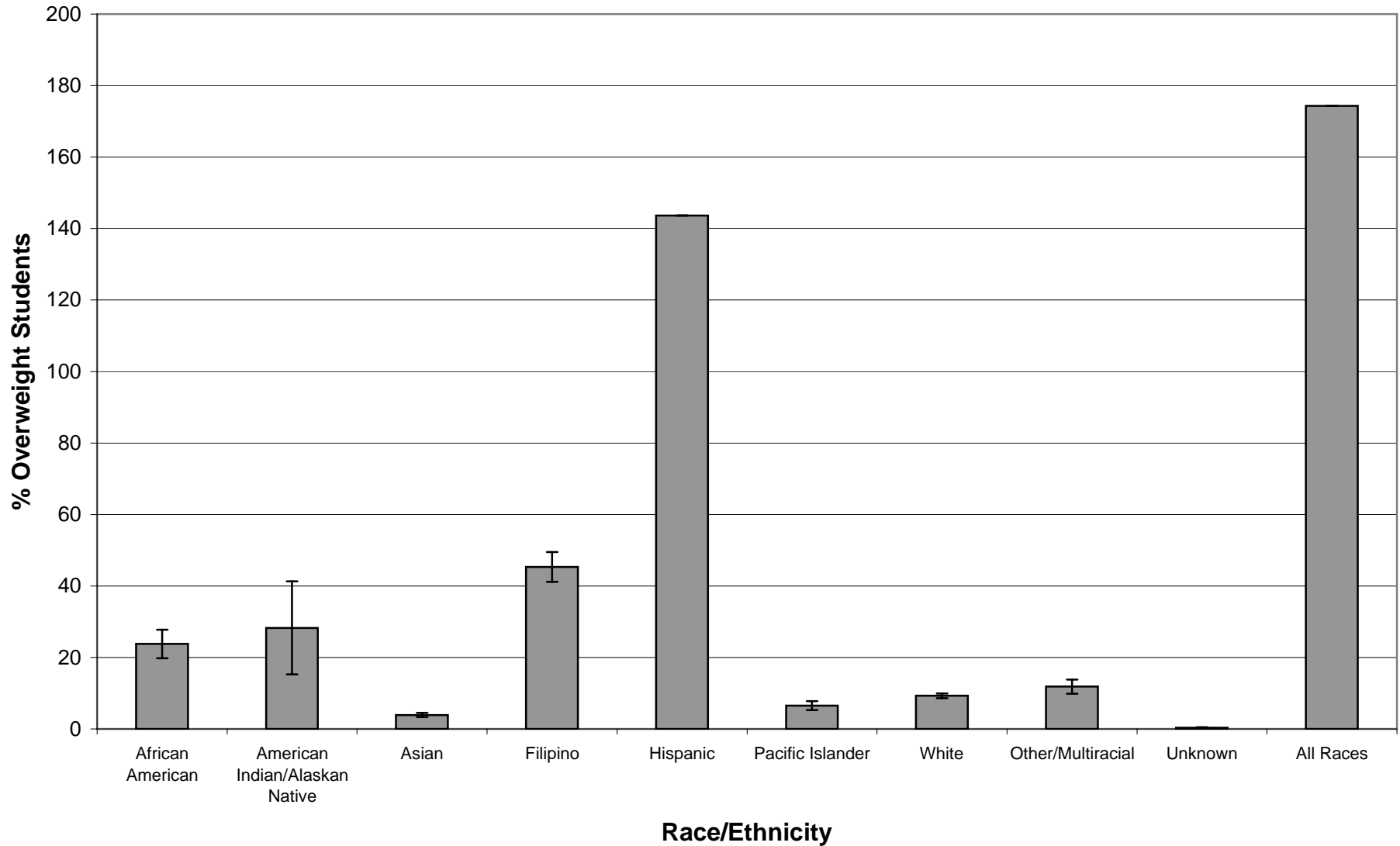
**Table 16**

**Prevalence of Overweight Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, All Grades**

<b>Race/Ethnicity</b>	<b>Total Students N</b>	<b>Overweight Students n</b>	<b>% Overweight (95% CI)</b>
African American	545	104	19.1 (15.8,22.4)
American	46	13	28.3 (15.2,41.3)
Asian	1337	161	12.0 (10.3,13.8)
Filipino	1441	247	17.1 (15.2,19.1)
Hispanic	4139	905	21.9 (20.6,23.1)
Pacific Islander	437	94	21.5 (17.7,25.4)
White	4366	671	15.4 (14.3,16.4)
Other/Multiracial	630	121	19.2 (16.1,22.3)
Unknown	1020	153	15.0 (12.9,17.3)
All Races	13961	2469	17.7 (17.1,18.3)

**Figure 16-A**

**Prevalence of Overweight Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, All Grades**



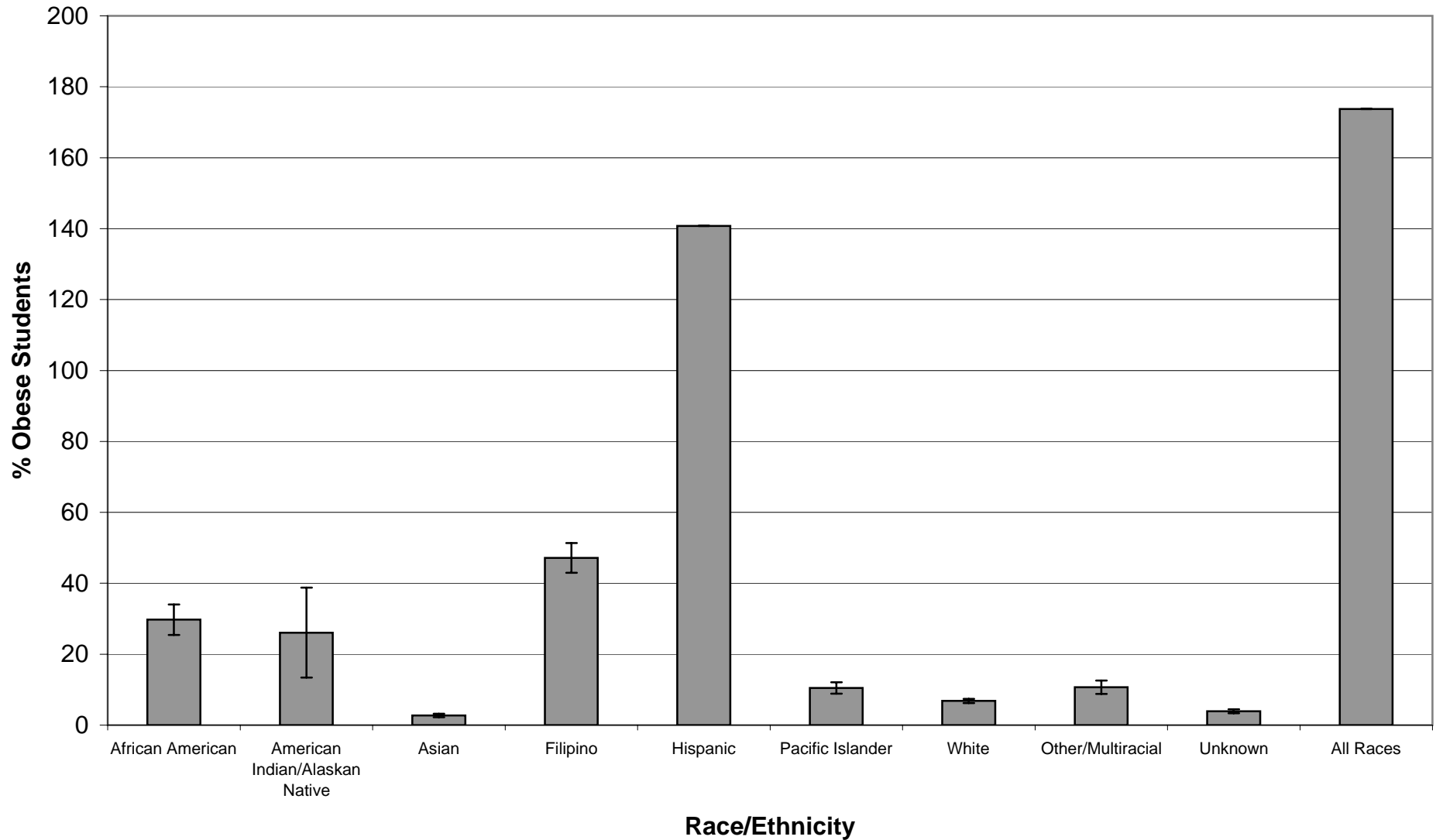
### Table 17

#### Prevalence of Obese Students By Race/Ethnicity San Mateo County, 2000-2001 Academic Year, All Grades

Race/Ethnicity	Total Students N	Obese Students n	% Obese (95% CI)
African American	545	130	23.9 (20.3,27.4)
American	46	12	26.1 (13.4,38.8)
Asian	1337	113	8.5 (7.0,9.9)
Filipino	1441	257	17.8 (15.9,19.8)
Hispanic	4139	887	21.4 (20.2,22.7)
Pacific Islander	437	151	34.6 (30.1,39.0)
White	4366	493	11.3 (10.4,12.2)
Other/Multiracial	630	109	17.3 (14.3,20.3)
Unknown	1020	171	16.8 (14.5,19.1)
All Races	13961	2323	16.6 (16.0,17.3)

**Figure 17-A**

**Prevalence of Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, All Grades**



**Table 18**

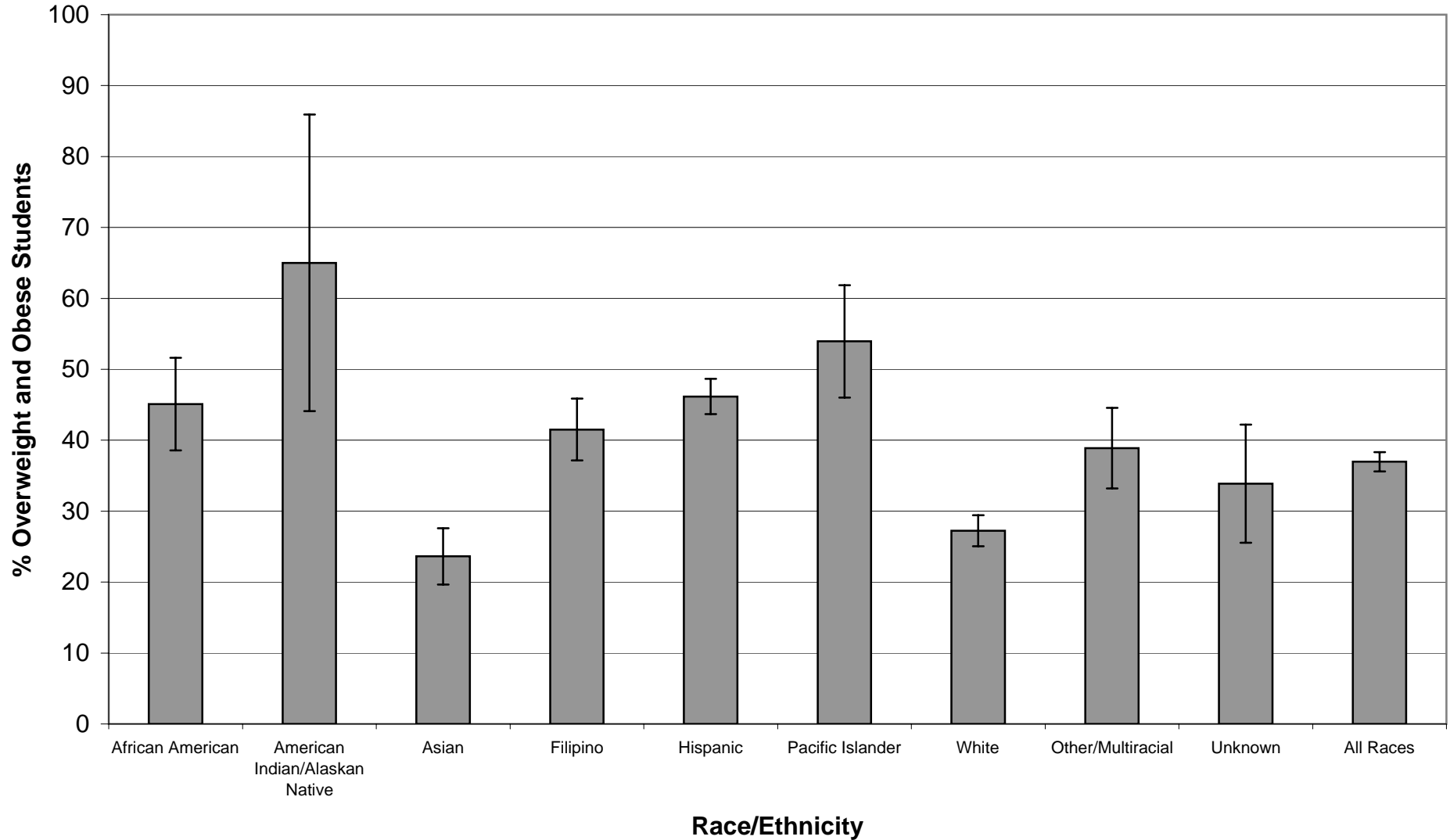
**Overweight and Obese Children Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 5**

Race/Ethnicity	Total Students	Overweight		Obese		Either	
	n	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
African American	224	45	20.1 (14.8,25.3)	56	25.0 (19.3,30.7)	101	45.1 (38.6,51.6)
AIAN*	20	6	30.0 (9.9,50.1)	7	35.0 (14.1,55.9)	13	65.0 (44.1,85.9)
Asian	440	65	14.8 (11.5,18.1)	39	8.9 (6.2,11.5)	104	23.6 (19.7,27.6)
Filipino	489	97	19.8 (16.3,23.4)	106	21.7 (18.0,25.3)	203	41.5 (37.1,45.9)
Hispanic	1527	368	24.1 (22.0,26.2)	337	22.1 (20.0,24.1)	705	46.2 (43.7,48.7)
Pacific Islander	152	35	23.0 (16.3,29.7)	47	30.9 (23.6,38.3)	82	53.9 (46.0,61.9)
White	1590	235	14.8 (13.0,16.5)	198	12.5 (10.8,14.1)	433	27.2 (25.0,29.4)
Other/Multiracial	283	56	19.8 (15.1,24.4)	54	19.1 (14.5,23.7)	110	38.9 (33.2,44.5)
Unknown	124	20	16.1 (9.7,22.6)	22	16.1 (11.0,24.5)	42	33.9 (25.5,42.2)
All Races	4849	927	19.1 (18.0,20.2)	866	17.9 (16.8,18.9)	1793	37.0 (35.6,38.3)

\* American Indian/Alaskan Native

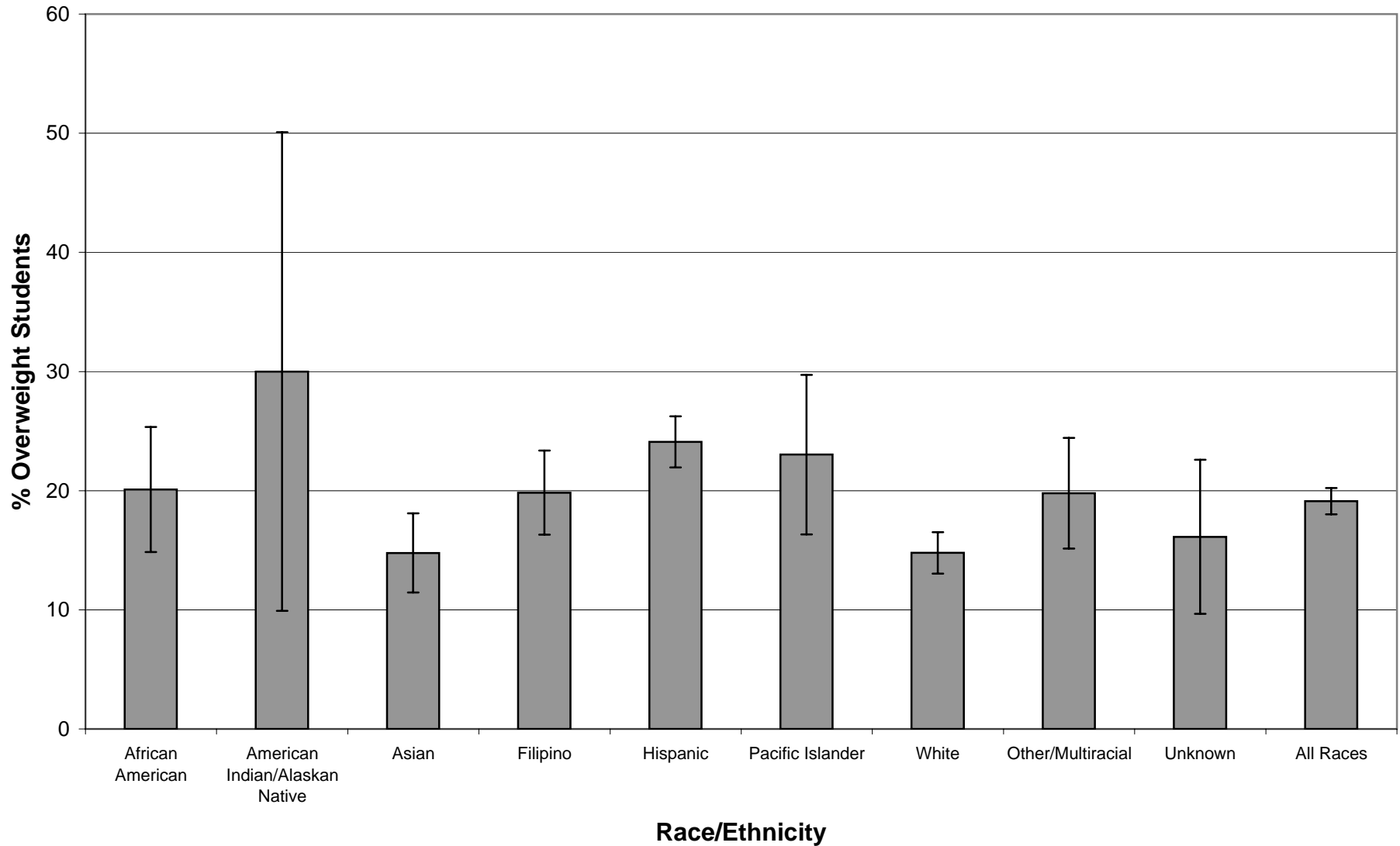
**Figure 18-A**

**Prevalence of Overweight and Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 5**



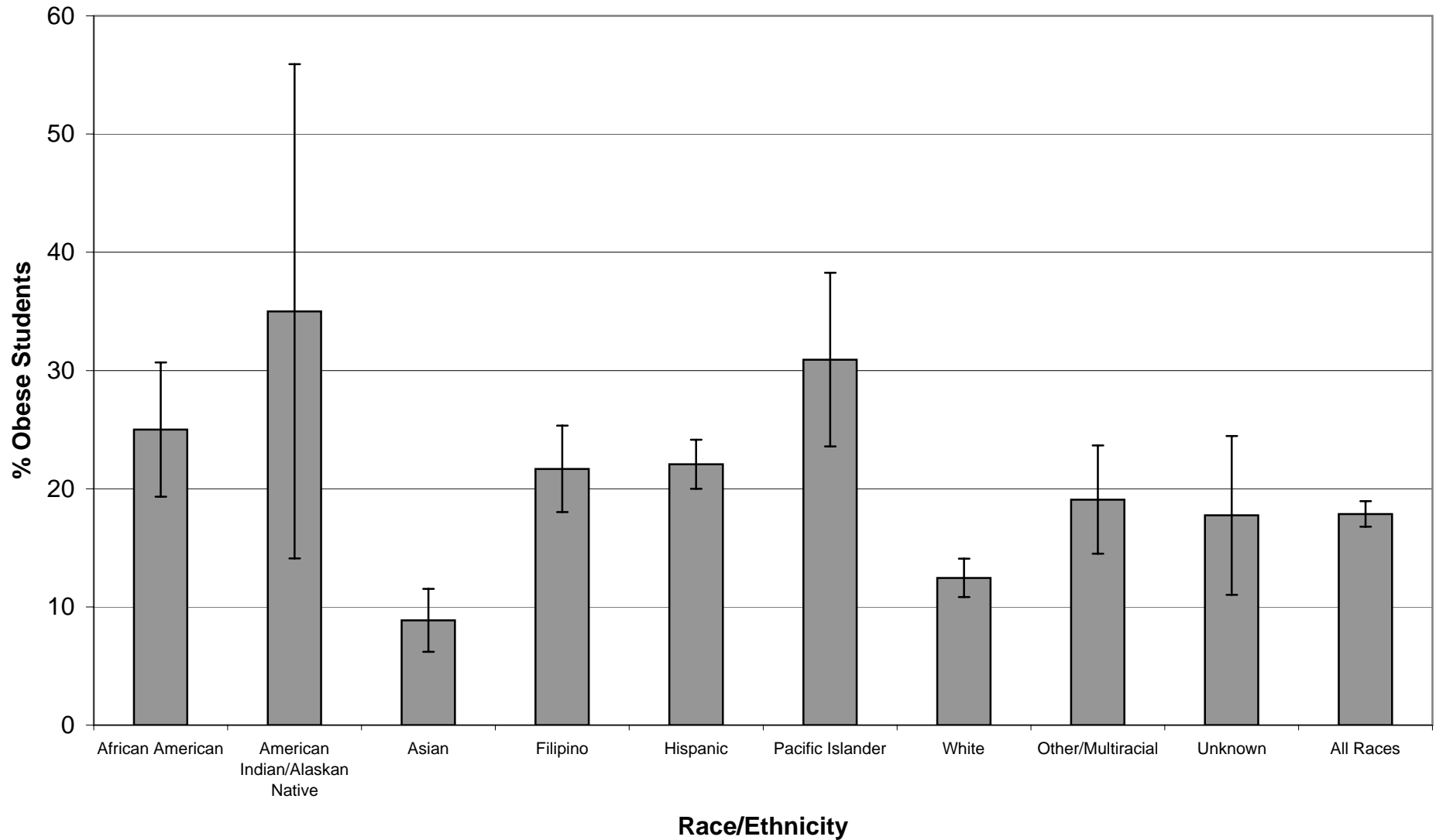
**Figure 18-B**

**Prevalence of Overweight Students By Race/Ethnicity**  
**San Mateo County, 2000-2001 Academic Year, Grade 5**



**Figure 18-C**

**Prevalence of Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 5**



**Table 19**

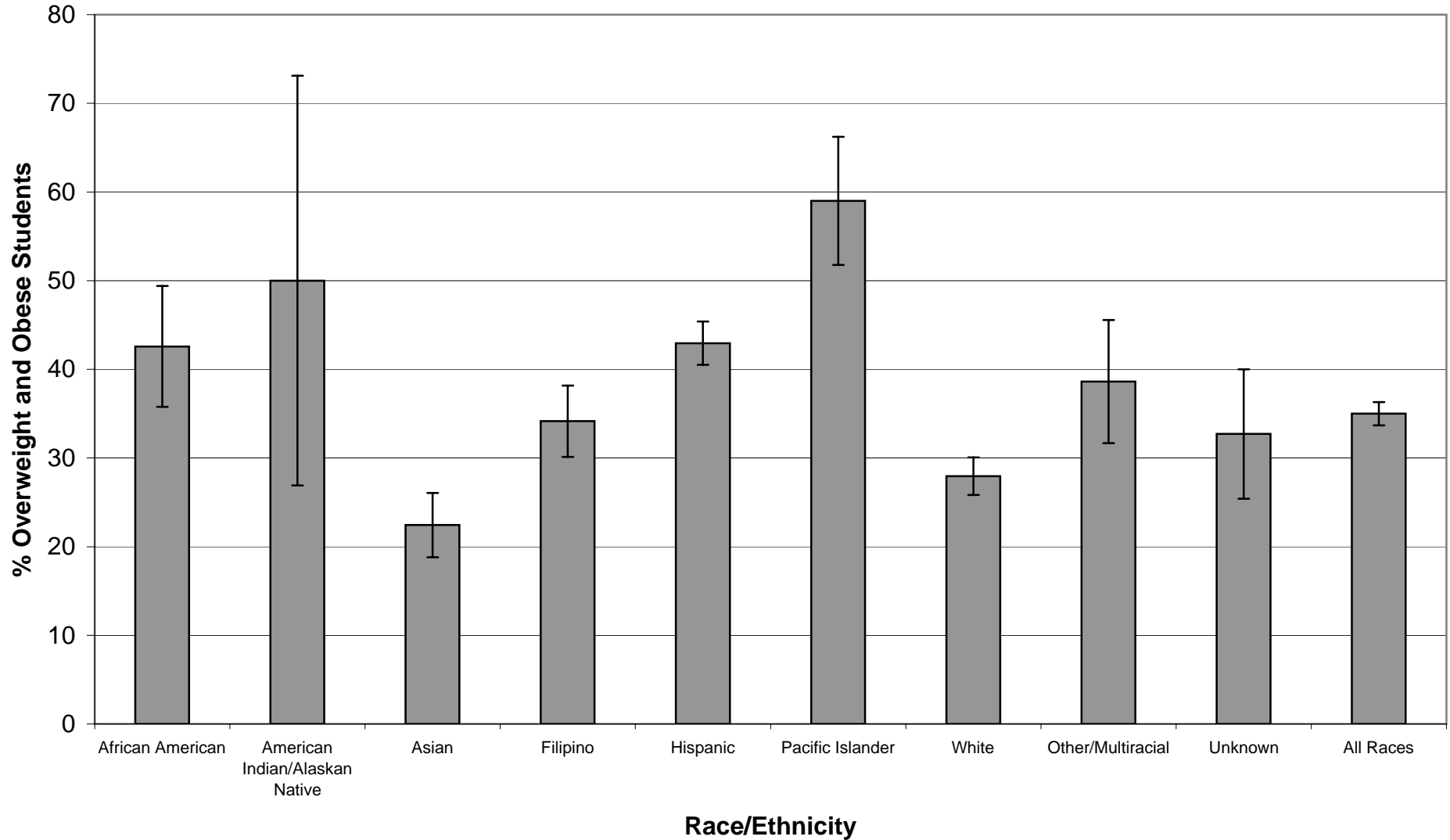
**Overweight and Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 7**

Race/Ethnicity	Total Students	Overweight		Obese		Either	
	n	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
African American	202	34	16.8 (11.7,22.0)	52	25.7 (19.7,31.8)	86	42.6 (35.8,49.4)
AIAN*	18	6	33.3 (11.6,55.1)	3	16.7 (0.0,33.9)	9	50.0 (26.9,73.1)
Asian	508	60	11.8 (9.0,14.6)	54	10.6 (7.9,13.3)	114	22.4 (18.8,26.1)
Filipino	533	91	17.1 (13.9,20.3)	91	17.1 (13.9,20.3)	182	34.1 (30.1,38.2)
Hispanic	1588	332	20.9 (18.9,22.9)	350	22.0 (20.0,24.1)	682	42.9 (40.5,45.4)
Pacific Islander	178	42	23.6 (17.4,29.8)	63	35.4 (28.4,42.4)	105	59.0 (51.8,66.2)
White	1735	285	16.4 (14.7,18.2)	200	16.4 (10.0,13.0)	485	28.0 (25.8,30.1)
Other/Multiracial	189	37	19.6 (13.9,25.2)	36	19.0 (13.4,24.6)	73	38.6 (31.7,45.6)
Unknown	159	22	13.8 (8.5,19.2)	30	18.9 (12.8,24.9)	52	32.7 (25.4,40.0)
All Races	5110	909	17.8 (16.7,18.8)	879	17.2 (16.2,18.2)	1788	35.0 (33.7,36.3)

\* American Indian/Alaskan Native

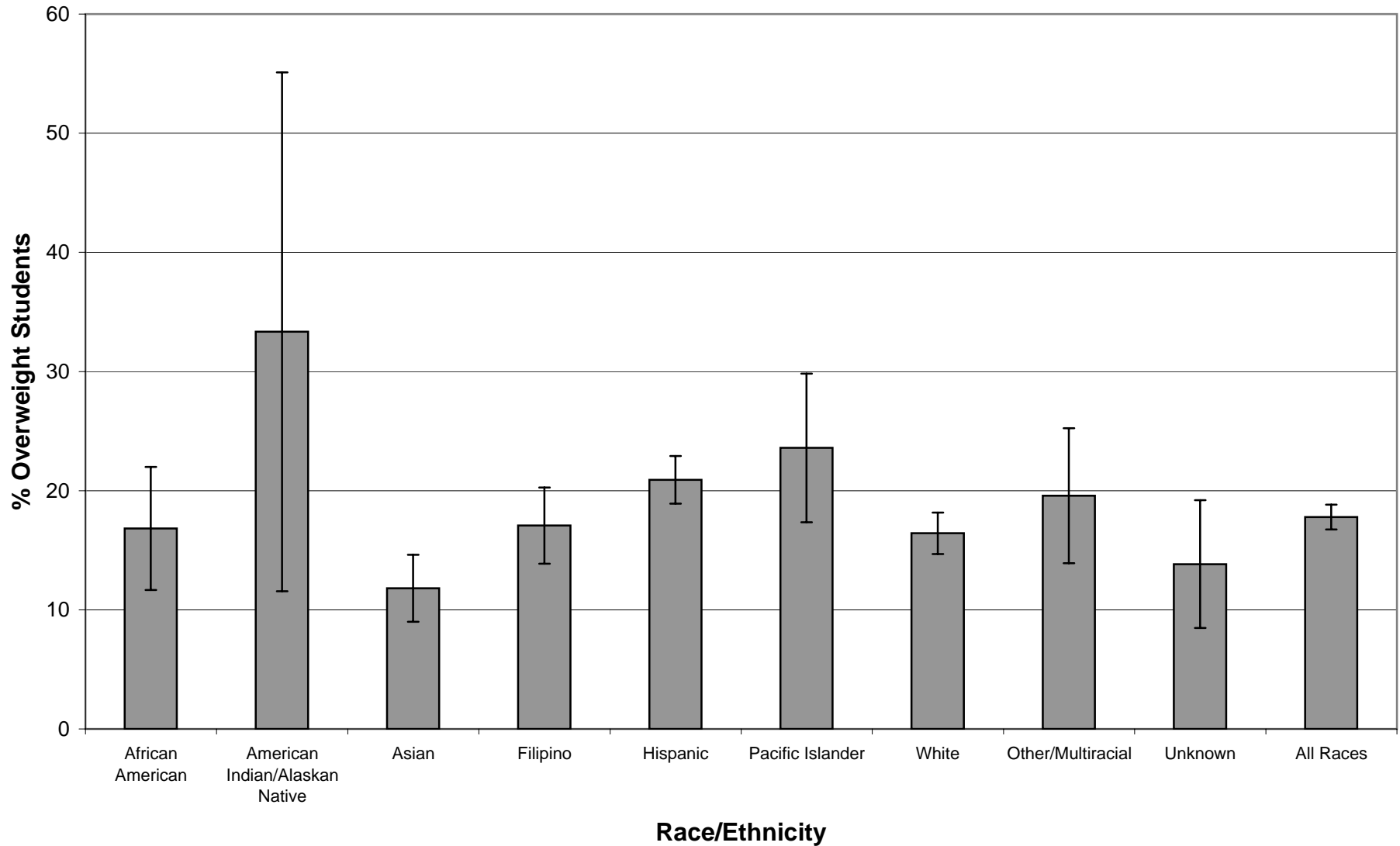
**Figure 19-A**

**Prevalence of Overweight and Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 7**



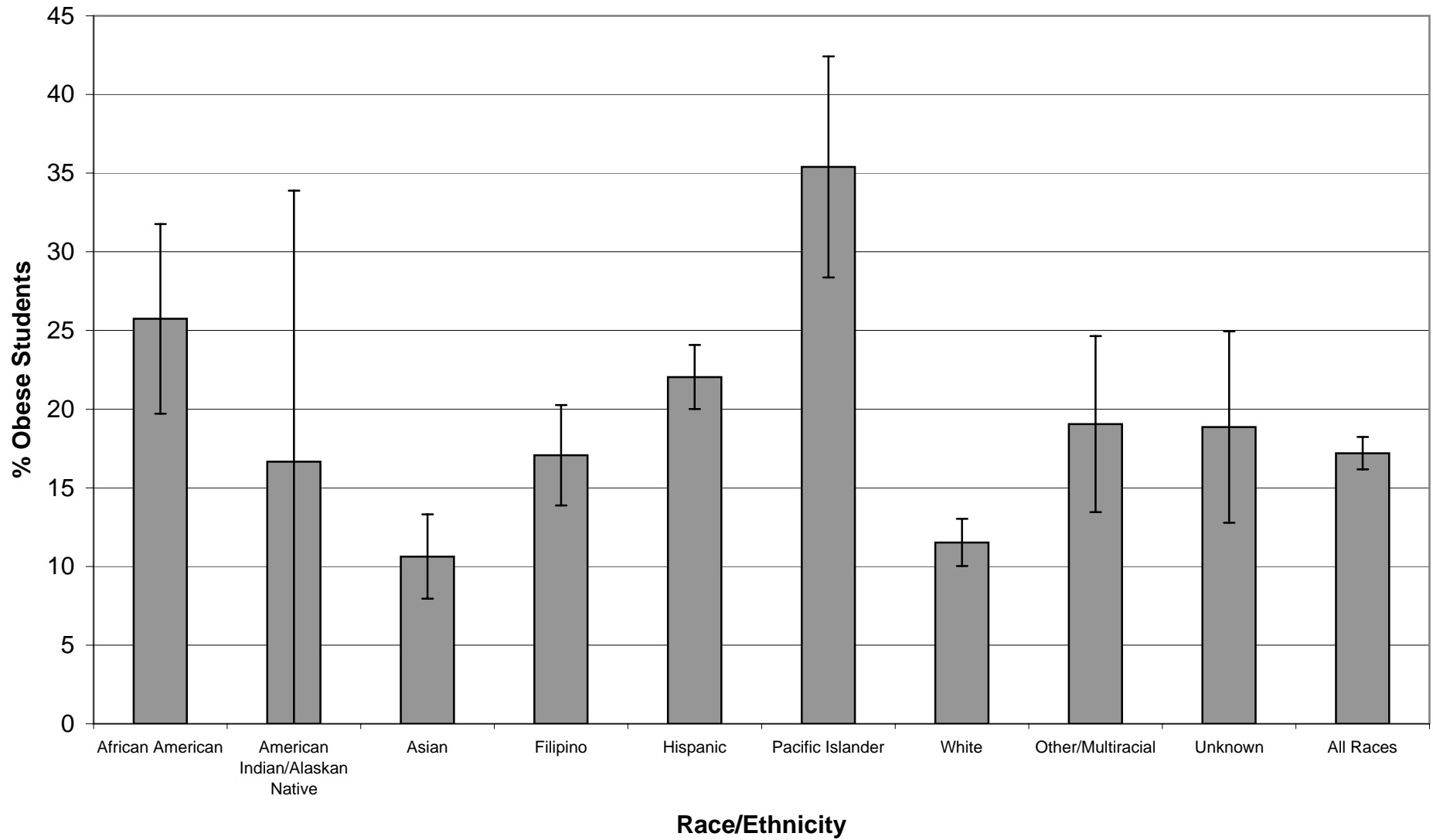
**Figure 19-B**

**Prevalence of Overweight Students By Race/Ethnicity**  
**San Mateo County, 2000-2001 Academic Year, Grade 7**



**Figure 19-C**

**Prevalence of Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 7**



**Table 20**

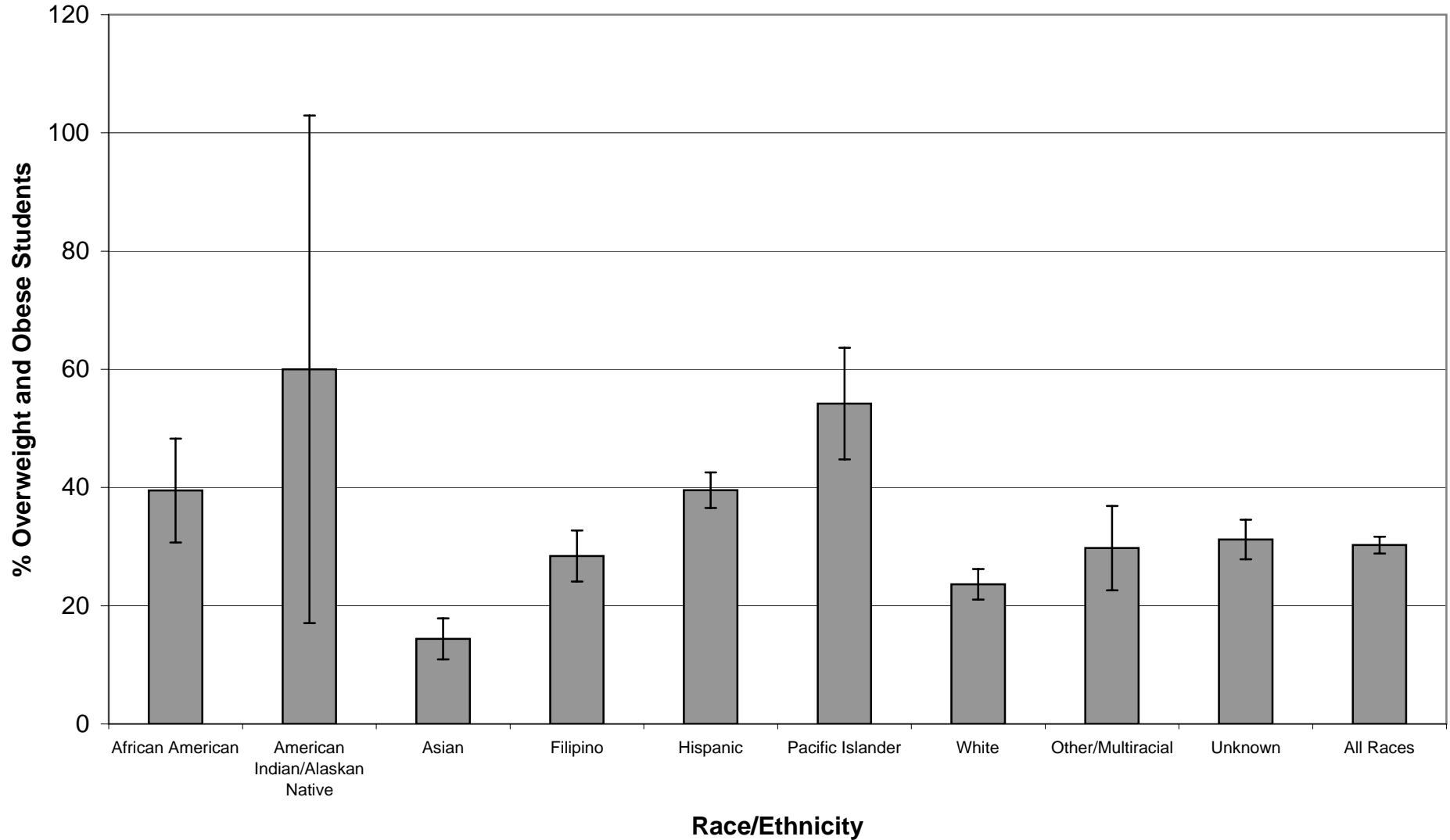
**Overweight and Obese Children Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 9**

Race/Ethnicity	Total Students	Overweight		Obese		Either	
	n	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
African American	119	25	21.0 (13.7,28.3)	22	18.5 (11.5,25.5)	47	39.5 (30.7,48.3)
AIAN*	5	1	20.0 (0.0,55.1)	2	40.0 (0.0,82.9)	3	60.0 (17.1,100.0)
Asian	389	36	9.3 (6.4,12.1)	20	5.1 (2.9,7.3)	56	14.4 (10.9,17.9)
Filipino	419	59	14.1 (10.8,17.4)	60	14.3 (11.0,17.7)	119	28.4 (24.1,32.7)
Hispanic	1024	205	20.0 (17.6,22.5)	200	20.0 (17.1,22.0)	405	39.6 (36.6,42.5)
Pacific Islander	107	17	15.9 (9.0,22.8)	41	38.3 (29.1,47.5)	58	54.2 (44.8,63.6)
White	1041	151	14.5 (12.4,16.6)	95	9.1 (7.4,10.9)	246	23.6 (21.1,26.2)
Other/Multiracial	158	28	17.7 (11.8,23.7)	19	12.0 (7.0,17.1)	47	29.7 (22.6,36.9)
Unknown	737	111	15.1 (12.5,17.6)	119	16.1 (13.5,18.8)	230	31.2 (27.9,34.6)
All Races	4002	633	15.8 (14.7,16.9)	578	14.4 (13.4,15.5)	1211	30.3 (28.8,31.7)

\* American Indian/Alaskan Native

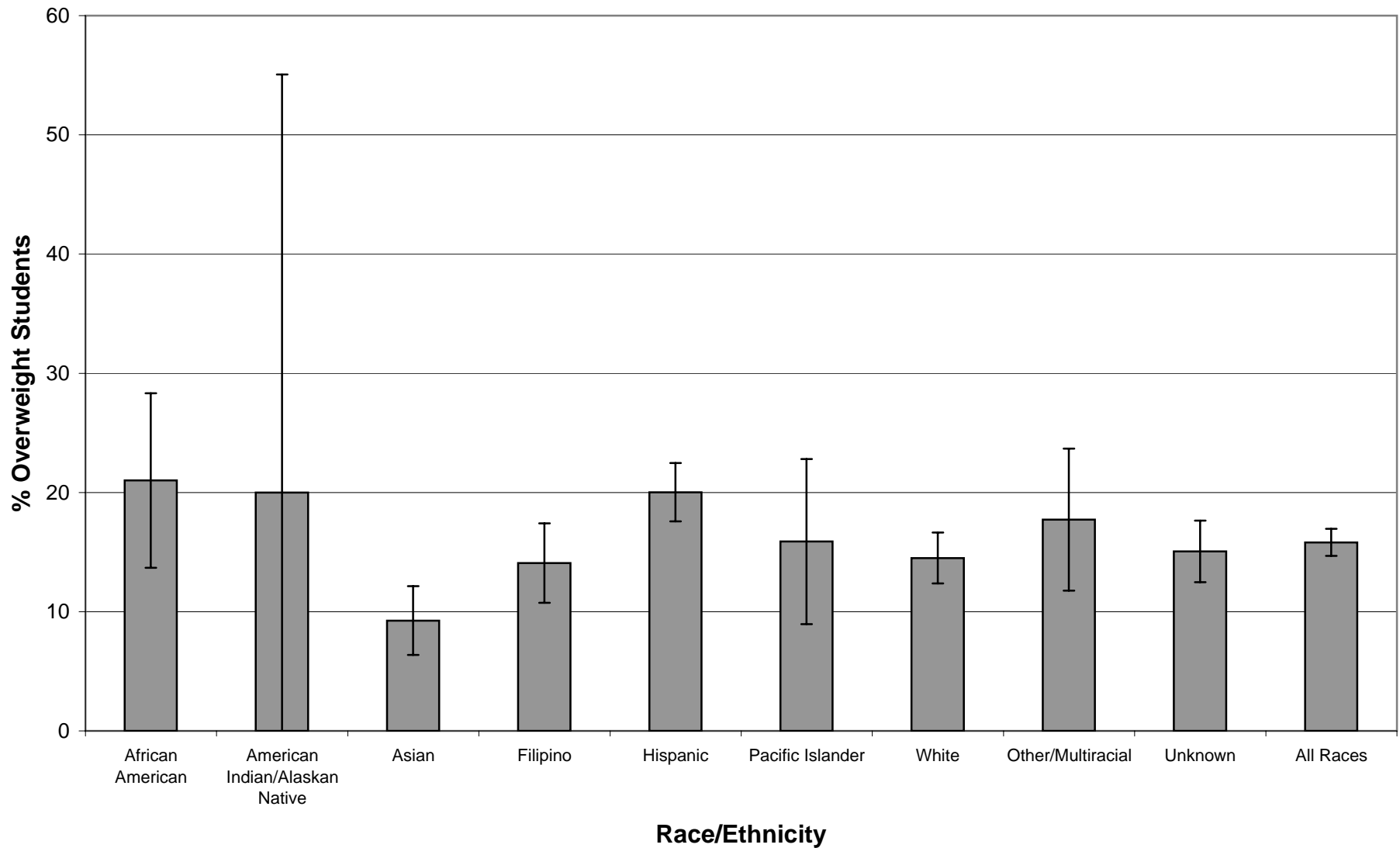
**Figure 20-A**

**Prevalence of Overweight and Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 9**



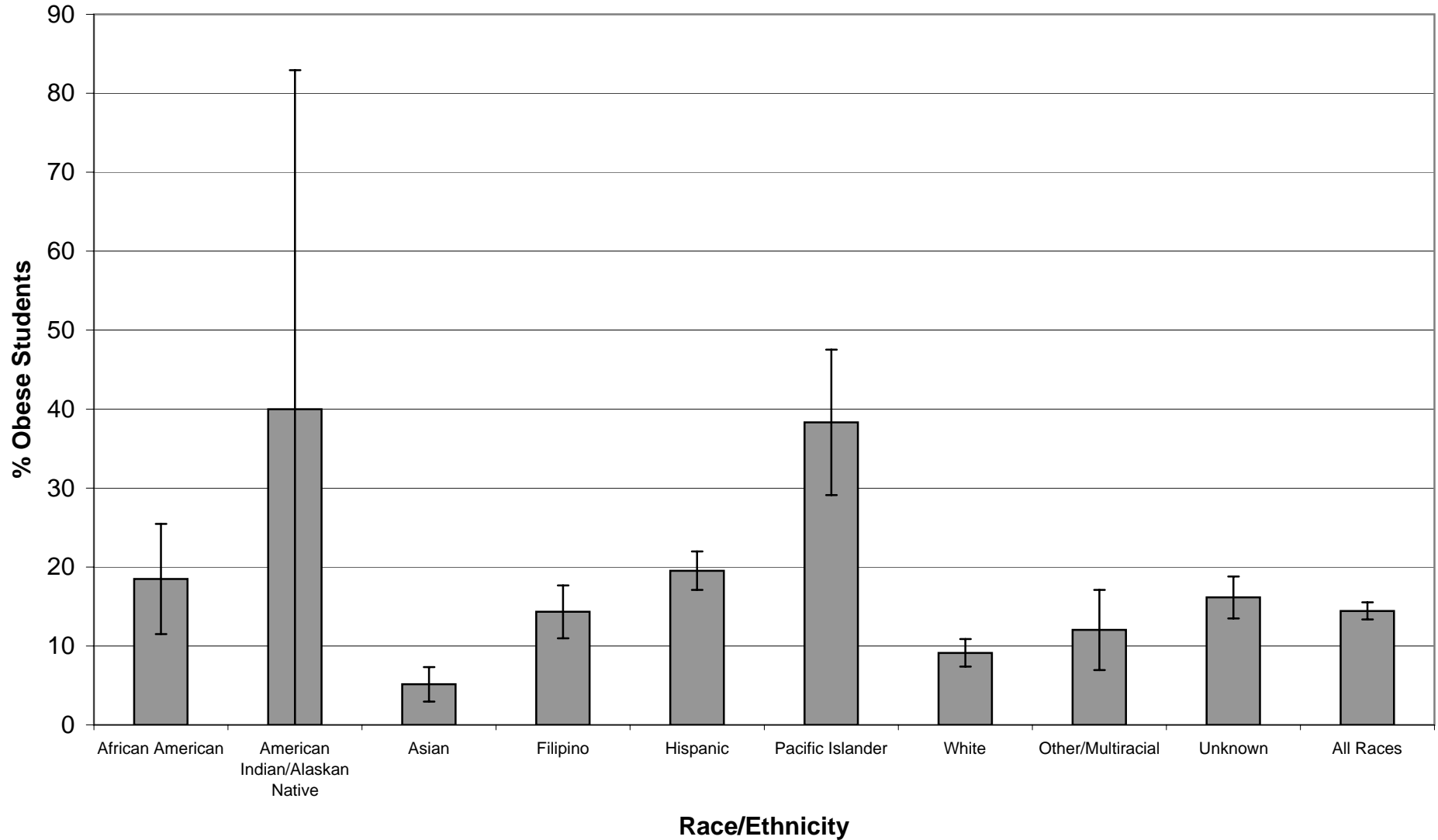
**Figure 20-B**

**Prevalence of Overweight Students By Race/Ethnicity**  
**San Mateo County, 2000-2001 Academic Year, Grade 9**



**Figure 20-C**

**Prevalence of Obese Students By Race/Ethnicity  
San Mateo County, 2000-2001 Academic Year, Grade 9**



**Table 21**

**Bivariate Logistic Regression Results for Obesity<sup>1</sup> Risk Factors  
San Mateo County, 2000-2001 Academic Year**

Characteristic	Odds Ratio (95% CI)
<b>Grade</b>	
Five	1.37 (1.25,1.51)
Seven	1.26 (1.14,1.38)
Nine	--*
<b>Sex</b>	
Male	1.22 (1.13,1.31)
Female	--
<b>Race/Ethnicity</b>	
African American	2.07 (1.73,2.48)
American Indian/Alaskan Native	3.28 (1.83,5.87)
Asian	0.71 (0.61,0.82)
Filipino	1.48 (1.30,1.68)
Hispanic	2.10 (1.92,2.30)
Pacific Islander	3.51 (2.87,4.29)
Other/Multiracial	1.58 (1.33,1.89)
White	--

<sup>1</sup> Obesity here refers to both overweight and obese students

\* Comparison Group

**Table 22**

**Correlation Between Obesity<sup>1</sup> and Socioeconomic Status<sup>2</sup>**  
**School District Level, San Mateo County, 2000-2001 Academic Year**

<b>Grade and Obesity Status</b>	<b>Pearson Correlation Coefficient</b>	<b><i>p</i> value</b>
<b>Grade 5</b>		
Overweight	<b>0.52</b>	<b>0.04</b>
Obese	<b>0.76</b>	<b>0.001</b>
Overweight or Obese	<b>0.71</b>	<b>0.002</b>
<b>Grade 7</b>		
Overweight	<b>0.6</b>	<b>0.01</b>
Obese	<b>0.78</b>	<b>&lt; 0.001</b>
Overweight or Obese	<b>0.8</b>	<b>&lt; 0.001</b>
<b>Grade 9</b>		
Overweight	-0.29	0.58
Obese	0.66	0.15
Overweight or Obese	0.73	0.1
<b>All Grades</b>		
Overweight	<b>0.66</b>	<b>0.002</b>
Obese	<b>0.85</b>	<b>&lt; 0.001</b>
Overweight or Obese	<b>0.84</b>	<b>&lt; 0.001</b>

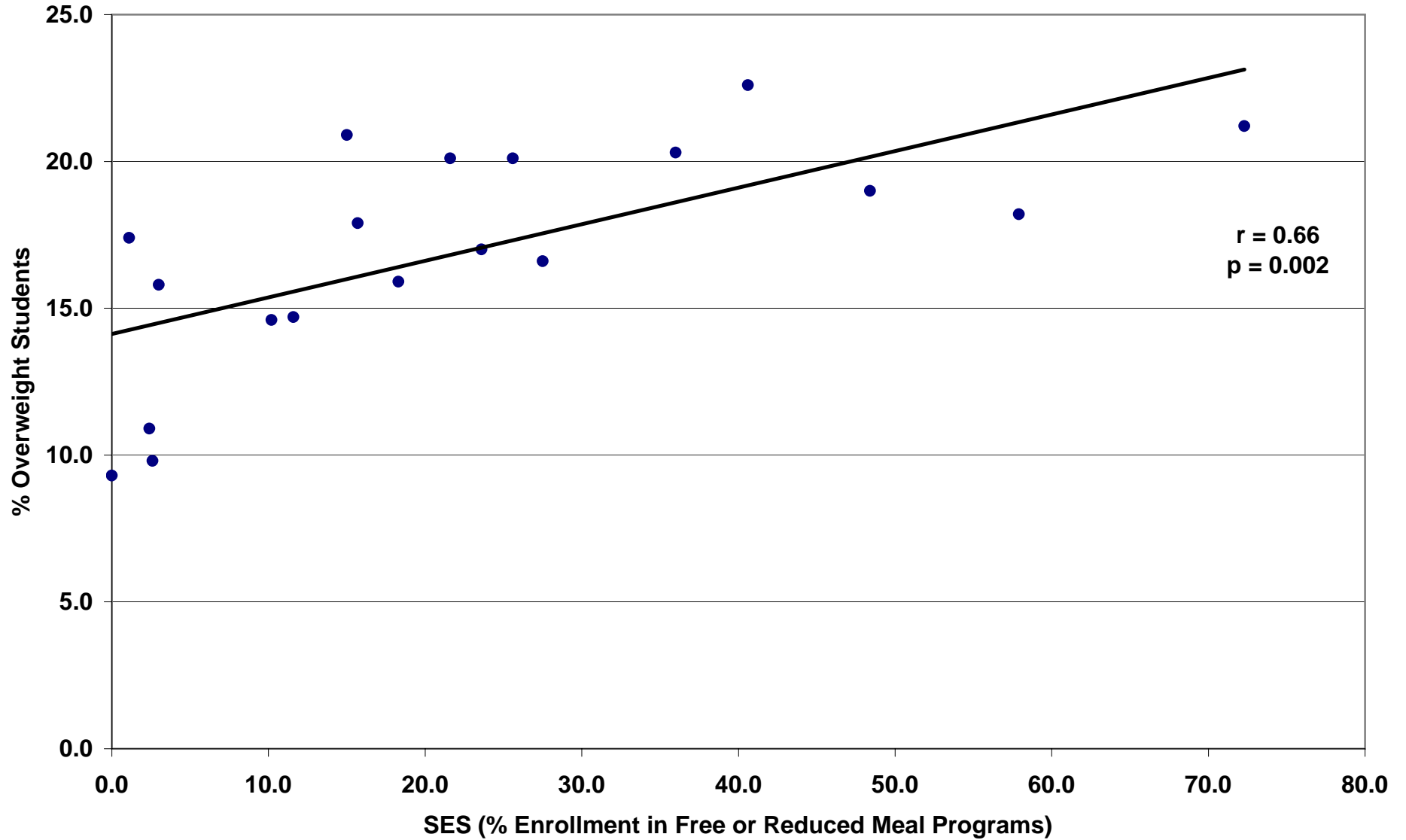
<sup>1</sup> Obesity here refers to both overweight and obese students, as noted in the table

<sup>2</sup> Socioeconomic status is measured by enrollment in the Free or Reduced Meal Program

**Statistically significant correlations are highlighted in bold text**

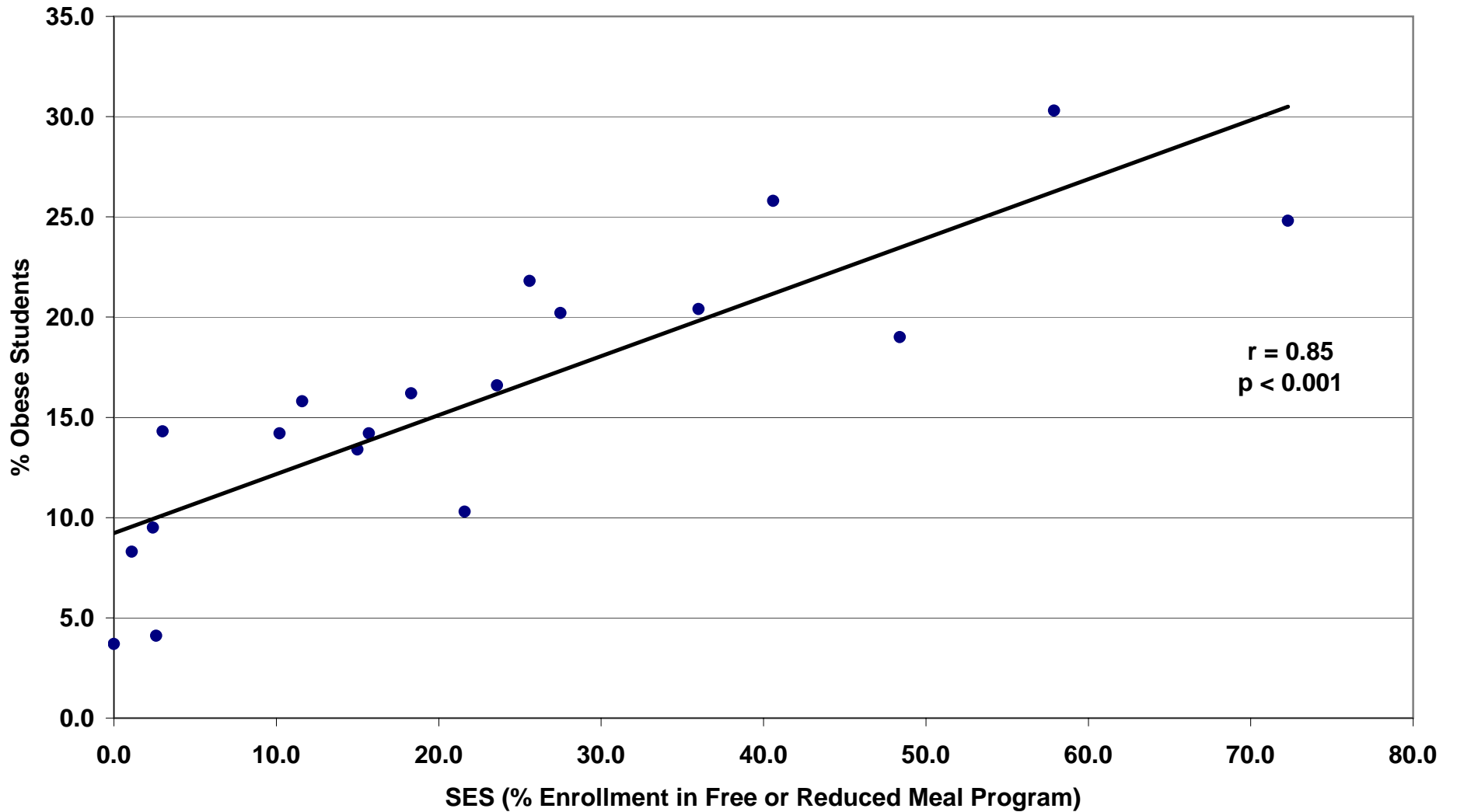
**Figure 22-A**

**Overweight Students and Socioeconomic Status**  
School District Level, San Mateo County, 2000-2001, All Grades



**Figure 22-B**

**Obese Students and Socioeconomic Status**  
School District Level, San Mateo County, 2000-2001, All Grades



**Figure 22-C**

**Overweight or Obese Students and Socioeconomic Status**

School District Level, San Mateo County, 2000-2001, All Grades

