Objective. To examine the independent relation of physical activity (PA) and cardiorespiratory fitness (fitness) with measures of obesity in Mexican children. Materials and methods. Children (N=193) in 5th and 6th grade from Guadalajara participated. Body mass index (BMI), sum of skinfolds (SS) and waist circumference (WC) were measured. PA was measured over four days using pedometry and fitness was measured using the 20 meter shuttle-run test. Results. Fitness and PA were negatively related to the obesity measures in boys and girls (r=-0.57 to -0.64 and r=-0.18 to -0.23 respectively). Age adjusted significant differences in WC, BMI, and SS were observed between the lowest and highest fitness tertiles for boys and girls (p<.01). Age, gender, and PA adjusted fitness explained 23 to 34% of the variance on WC (r²=0.23, p<.01), BMI (r²=0.23, p<.01), and SS (r²=0.34, p<.01). Conclusion. Fitness is a stronger correlate and better predictor of obesity than PA in this sample.

Keywords
Obesity, children, physical fitness, exercise, Mexico.