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Research article

## Step Counts and Body Mass Index Among 9-14 Years Old Greek Schoolchildren

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### ABSTRACT

The main purpose of this study was the identification of the current pedometer determined physical activity levels of a large sample of 9 -14 years old Greek schoolchildren and the determination of the association between daily step counts and body mass index through the comparison of step counts among overweight, obese and normal-weight children. A total of 532 children (263 boys and 269 girls) were measured for height and weight. Their activity levels were analyzed using pedometers to measure mean steps for 7 consecutive days. Overweight and obese status was determined using the international reference standard (Cole et al., 2000). According to data analysis mean step counts ranged from 15371 to 10539 for boys and from 11536 to 7893 for girls. Steps per day were significantly more for boys compared to girls. Children with normal weight performed significantly more steps per day compared to their overweight and obese classmates. Daily step counts reported in this study for 9 -14 year old schoolchildren were relatively low when compared to step counts from other European countries. Only 33.9% of the participants satisfied the body mass index referenced standards for recommended steps per day. Finally, the results of this study provide baseline information on youth pedometer determined physical activity and on youth body mass index levels. High prevalence of low daily step counts and BMI determined obesity was revealed prompting for further exploration of the relationship between objectively measured physical activity and adiposity in particular for children and adolescents that experience both health risk factors.

**Key words:** Childhood, obesity, pedometry

## Key Points

- The mean steps/day taken by both boys and girls in Greece 9-14 years old were 13.446 and 10.656 respectively.
- Daily step counts tended to be leveled for ages 9-12 years and a significant drop in steps/day was apparent for children aged 13 -14 years.
- According to the IOTF criteria, 23% of the boys that participated in this study were overweight and 7.8% were obese, while in girls the respective rates were 24.8% and 4.7%.
- Children with normal weight performed significantly more steps/day than the overweight and the obese children.

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