The content of the article snippet I received is as follows:

“24.8 PERCENT: Percentage of U.S. teenagers between the ages of 12 and 15 who engaged in the recommended 60 minutes of daily moderate-to-vigorous physical activity in 2012, according to new data from the federal Centers for Disease Control and Prevention.”

At first, I assumed there wasn’t enough information given by the periodical clipping to find the original source of this particular article, so I performed a web search on the pertinent information, and I was able to find several articles that claimed the same basic information, including publications such as U.S. News & World Report. However, doing a specific web search on the full content of the article did render a reference to California Educator, from February 2014, page 16 that rendered the identical font and layout to the snippet, positively identifying the source (at least in my assessment).

In reading the quote, it seemed to be pretty simple and straightforward, referencing specific numbers (age of teens, minutes of activity), a specific year (2012) for the data, and a source of the data (federal Centers for Disease Control and Prevention). There was also a reference to ‘recommended’ physical activity that was described as ‘moderate-to-vigorous’, which left me with a question of who did the recommending, and what did ‘moderate-to-vigorous’ actually mean? I also wondered how the data was collected.

My next move was to locate the report referenced, which I discovered on the CDC website, in the National Center for Health Statistics data brief #141 from January 2014 (<http://www.cdc.gov/nchs/data/databriefs/db141.htm>). This report itself referenced data from “the combined National Health and Nutritional Examination Survey (NHANES) and the NHANES National Youth Fitness Survey from 2012.

The NCHS data brief referenced the 2008 Physical Activity Guidelines for Americans as the source of the recommendation that youth participate in daily moderate-to-vigorous physical activity for at least 60 minutes (<http://www.health.gov/paguidelines/Report/pdf/CommitteeReport.pdf>) and the disclaimer on the report read “The findings of this report are those of the Physical Activity Guidelines Advisory Committee. They do not necessarily reflect the views of the Office of Disease Prevention and Health Promotion or the U.S. Department of Health and Human Services.” The report claims to ‘represent the most recent national data from 2012 on self-reported physical activity among youth aged 12-15 years, by sex and weight status.’

The “2008 Physical Activity Guidelines for Americans” states that “Few studies have provided data on the dose response for various health and fitness outcomes in children and youth. However, substantial data indicate that important health and fitness benefits can be expected to accrue to most children and youth who participate daily in 60 or more minutes of moderate to vigorous physical activity.’ The guidelines also designate specific types of physical activity that should be included in order to gain comprehensive health benefits, such as participation in each of the following types of physical activity on 3 or more days per week: ‘resistance exercise to enhance muscular strength in the large muscle groups of the trunk and limbs, vigorous aerobic exercise to improve cardiorespiratory fitness and cardiovascular and metabolic disease risk factors, and weight-loading activities to promote bone health.

The NCHS data brief summarizes the answer to the question “what percentage of youth engaged in moderate-to-vigorous physical activity for at least 60 minutes each day?” as 24.8%, including activities both in school and outside of school, for at least 60 minutes daily. The article also defines ‘Physically active’ as ‘engaging in any kind of moderate-to-vigorous physical activity… that increases heart rate and made breathing harder some of the time for at least 60 minutes.’ The data was summarized in a bar chart, and drew its data from CDC/NCHS, National Health and Nutrition Examination Survey and National Youth Fitness Survey, 2012 (<http://www.cdc.gov/nchs/data/databriefs/db141_table.pdf#1>).

The specific data designated that of the boys ages 12-15 surveyed, 27% percent met the exercise suggestions for 7 days, with a standard error of 1.6 and a confidence interval of 23.2-30.8. For girls ages 12-25 surveyed, 22.5% met the suggestions for 7 days, with a standard error of 2.6 and a confidence interval of 17.0-28.0. From this data, I assume that the factors were averaged between male and female to achieve the stated 24.8% rate.

The ‘moderate-to-vigorous’ physical activity was assessed by asking youth the following question: “During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.” The responses to the questions ranged from 0 to 7 days.

The analyses used data from the combined 2012 National Health and Nutritional Examination Survey (NHANES) and the 2-12 NHANES National Youth Fitness Survey (NNYFS). CDC’s National Center for Health Statistics conducted both the NHANES and the NNYFS in 2012. NHANES assesses the health and nutritional status of the entire civilian non-institutionalized U.S. population. The 2012 NNYFS assessed the physical activity and fitness levels in children and adolescents aged 3-15 years to examine their health and fitness. The surveys included an in-home interview followed by a standard physical examination in a mobile examination center.

Both NHANES and NNYFS used ‘a complex, multistage probability sampling design to select participants. The NHANES sample design included oversampling to obtain reliable estimates of health and nutritional measures for population subgroups, but the NNYFS did not. Data were analyzed using special sample weights for the combined surveys to account for differential probabilities of selection, nonresponse, and noncoverage. The standard errors of the percentages were estimated using Taylor series linearization, a method that incorporates the sample design. Differences between groups were evaluated using a *t* statistic at the *p* < 0.05 significance level with the appropriate degrees of freedom. All differences reported are statistically significant unless otherwise indicated. To test for linear trends between weight groups, the null hypothesis of a nonlinear trend was examined using orthogonal polynomials. Statistical analyses were conducted using the SAS System for Windows (release 9.3; SAS Institute, Inc., Cary, N.C.) and SUDAAN (release 11.0; RTI International, Research Triangle Park, N.C.). ‘

**Conclusions:**

In reading the article snippet and comparing its claim to the data referenced in the related articles and reports, I feel comfortable with the claim being made. It seems that the data was presented accurately and to an appropriate level of precision, and correct reference was given to the CDC for the acquisition and presentation of the data.

There is some question left in my mind as to whether the teens interviewed reported their activity correctly or if they under/over-reported their activity. Also, since the survey asked about ‘the last seven days’, the sampling may not be necessarily representative of an average week in that child’s life. Also, without looking fully into the 638-page 2008 guidelines, I am uncertain as to whether the recommended activity guidelines are necessarily the best recommendation for health, but I have a fairly large level of confidence that the recommendations are based on data that can be researched and referenced.

**References:**

<http://educator.cta.org/i/250321-february-2014/17>

<http://www.cdc.gov/nchs/data/databriefs/db141.htm>

<http://www.health.gov/paguidelines/Report/pdf/CommitteeReport.pdf>

<http://www.cdc.gov/nchs/data/databriefs/db141_table.pdf#1>