

# Investigating height and opinion on health insurance for Sophomores and Juniors in Math 171

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## Introduction

In this simple random sample, it was found that there is little difference in Sophomore and Junior heights. In addition, the only difference in insurance between Sophomores and Juniors in Math 171 was that Juniors tended to not know if they were insured whereas Sophomores skewed slightly to “yes”. Overall, the simple random data yield fairly consistent and similar data for the 20 Sophomores and 20 Juniors of Math 171 randomly sampled.

## Data Collection

The populations of this study are the juniors and seniors who were surveyed. The variables being collected are student class, a categorical variable, student height, a quantitative variable, and whether the student has national health insurance, which is a categorical variable. This was an observational study, as there was no treatment, rather just data collected. In order to procure a simple random sample using excel, a column was added directly to the right of the healthcare column titled “random number”. In space below a header was added titled “=Rand()”. Then, the resulting random number was copied and pasted in the column all the way down the rows. The data was then sorted smallest to largest using the random value selected. The first 20 sophomores and then the first 20 juniors were selected to give us our simple random sample.

## Data Description

Sophomores			
Height		Insured	

Mean	67	Yes	6
Standard Deviation	3.974	No	6
Min x	60	Unsure	8
Q1	64.5		
Med	66		
Q3	70		
Max x	77		

Junior			
Height		Insured	
Mean	68.75	Yes	7
Standard Deviation	4.278	No	8
Min x	62	Unsure	5
Q1	66		
Med	68		
Q3	72		
Max x	76		

The Sophomores had a higher median and mean height, as well as a higher standard deviation.

The Sophomores and Juniors both had a right-skewed distribution as seen in graphs 1 and 2, with both data sets resulting in a shape that is higher on the left and slopes down to the right, supported by the fact that there are large amounts of high heights and fewer shorter heights in both Sophomore and Junior sample data sets. Both Juniors and Sophomores seemed split on Health Insurance based on the fact that both had similar amounts of yes and no responses, though the Sophomores generally lean more towards “yes” while the Juniors are generally more unsure and have an even split between yes and no, as seen in graph 3.

### Appendix



