

# Pie Graph Help!

## Part of a Series of Avoiding Graph Pitfalls

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# Pie Graph Help!

By Ada Ren & Andee Rubin

If you're reading this, it's probably because you have a pie graph that is statistically incorrect or visually misleading. Try to figure out which issue your graph has and consider the suggestions here for improving it.

## Problem: Unique data points should not be counted in multiple slices

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Students can participate in more than one post-school activity, so the categories are not mutually exclusive.	Use a bar graph instead, as unique data points can be in more than one bar.																								
<p>What do students do after school?</p> <table border="1"><caption>What do students do after school?</caption><thead><tr><th>Activity</th><th>Percentage</th></tr></thead><tbody><tr><td>Sport activities</td><td>25.4%</td></tr><tr><td>Buy snacks and food</td><td>21.2%</td></tr><tr><td>Hang out with friends</td><td>19.5%</td></tr><tr><td>Clubs</td><td>29.7%</td></tr><tr><td>No afterschool plans</td><td>4.2%</td></tr></tbody></table>	Activity	Percentage	Sport activities	25.4%	Buy snacks and food	21.2%	Hang out with friends	19.5%	Clubs	29.7%	No afterschool plans	4.2%	<p>What do students do after school?</p> <table border="1"><caption>What do students do after school?</caption><thead><tr><th>Activity</th><th>Number of students</th></tr></thead><tbody><tr><td>Sport activities</td><td>30</td></tr><tr><td>Clubs</td><td>35</td></tr><tr><td>No afterschool plans</td><td>5</td></tr><tr><td>Hang out with friends</td><td>23</td></tr><tr><td>Buy snacks and food</td><td>25</td></tr></tbody></table>	Activity	Number of students	Sport activities	30	Clubs	35	No afterschool plans	5	Hang out with friends	23	Buy snacks and food	25
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## Problem: Pie slices are about the same size, so differences between them are harder to judge

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If all slices of a pie chart are about the same size, it's hard to see the difference and communicates the message that there are no differences.	If you are trying to point out that some categories are larger than others, try a bar graph instead.																												
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## Problem: Too many pie slices

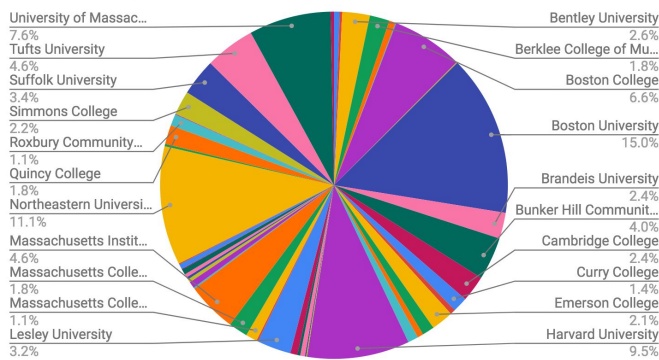
### Problem

When there are too many pie slices, it becomes unclear what you are comparing. The message gets diluted.

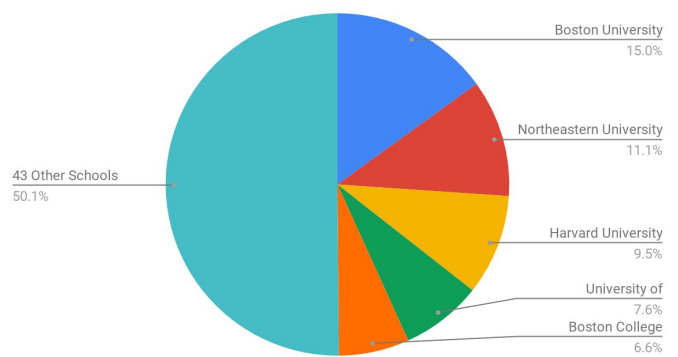
### Solution

Try to keep it to 5 to 8 categories maximum. If the numbers do not add up to a whole, use a bar graph instead. You can also add up the ones you don't want to focus on as one big slice and name it "other"

Which colleges did students get into?



Which colleges did students get into?



## Problem: Categories represent less than the whole

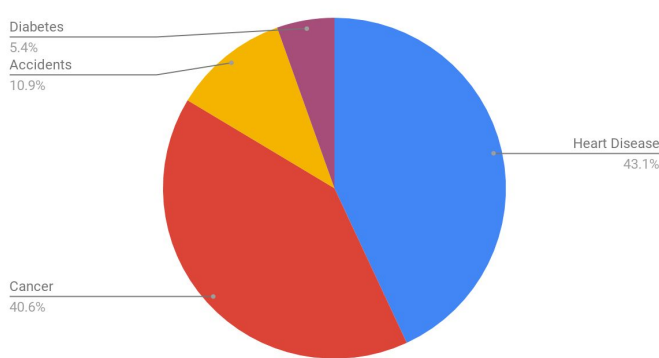
### Problem

A pie chart implies that the categories cover all possibilities, so if you only have data for some categories, a pie chart isn't appropriate.

### Solution

If you do not have numbers for all the categories in a whole, use a bar graph instead.

2017 Causes of Death in US



2017 Top Causes of Death in US

