

Uses and Misuses of Data

Dec 19/2018

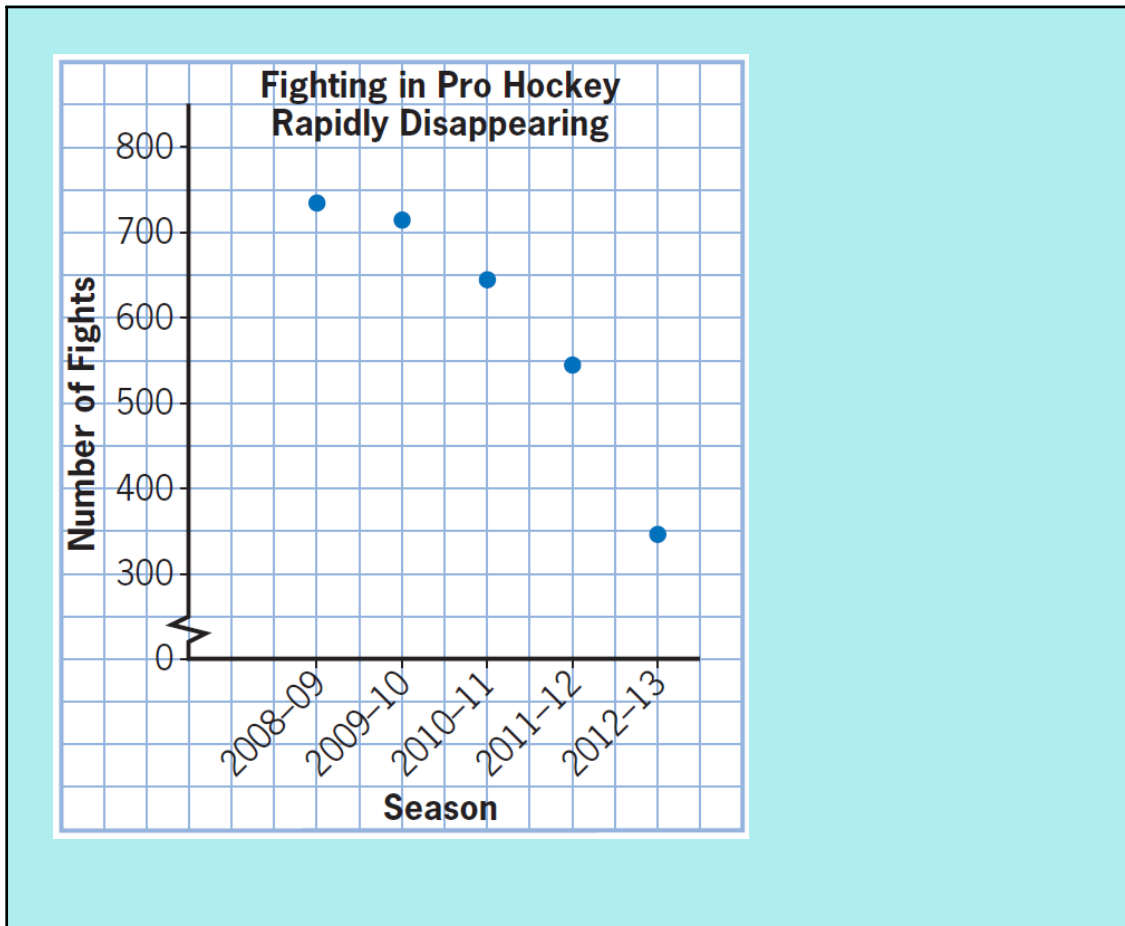
Data can be displayed in many ways, and is sometimes deliberately distorted to make an argument more convincing. For example:

- > bias in the wording
- > inadequate data collection
- > misrepresentation of the graphical data
- > poor analysis

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Season	Games	Fights
2012-2013	720	347
2011-2012	1230	546
2010-2011	1230	645
2009-2010	1230	714
2008-2009	1230	734

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Source of Bias	Explanation	Possible Intended Effect
Title	biased language "rapidly disappearing"	lead to or draw desired conclusion
Vertical Scale	broken scale, starting at ~250	makes vertical difference between points seem larger
Outlier	in 2012-2013, only 720 games played	last data point is <u>much</u> lower.
Sample Size	hockey stats collected for longer periods of time	avoids data that might contradict conclusion.

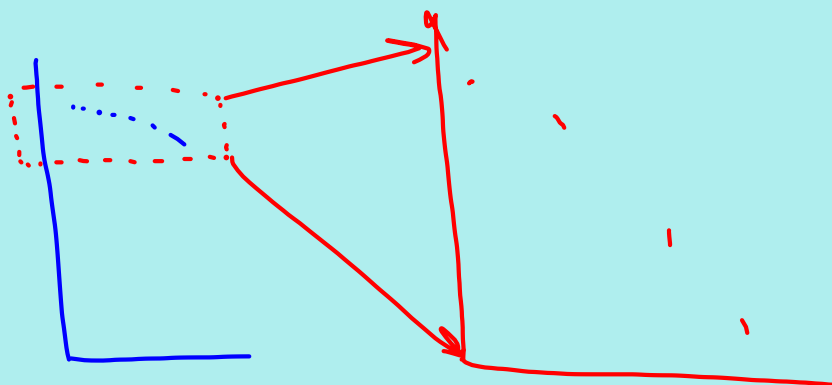
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Source of Bias	Explanation	Probable Intended Effect
Title	The language is not neutral.	<ul style="list-style-type: none"> to convince that fighting is on the decline
Vertical scale	The scale does not start at zero.	<ul style="list-style-type: none"> to exaggerate the downward trend
Outlier (2012–13, 720) due to a hidden variable	Only 720 games were played during this season due to a labour disruption.	<ul style="list-style-type: none"> to exaggerate the downward trend
Sample size	Only five points were chosen.	<ul style="list-style-type: none"> to hide that the trend is less downward over a longer period of time

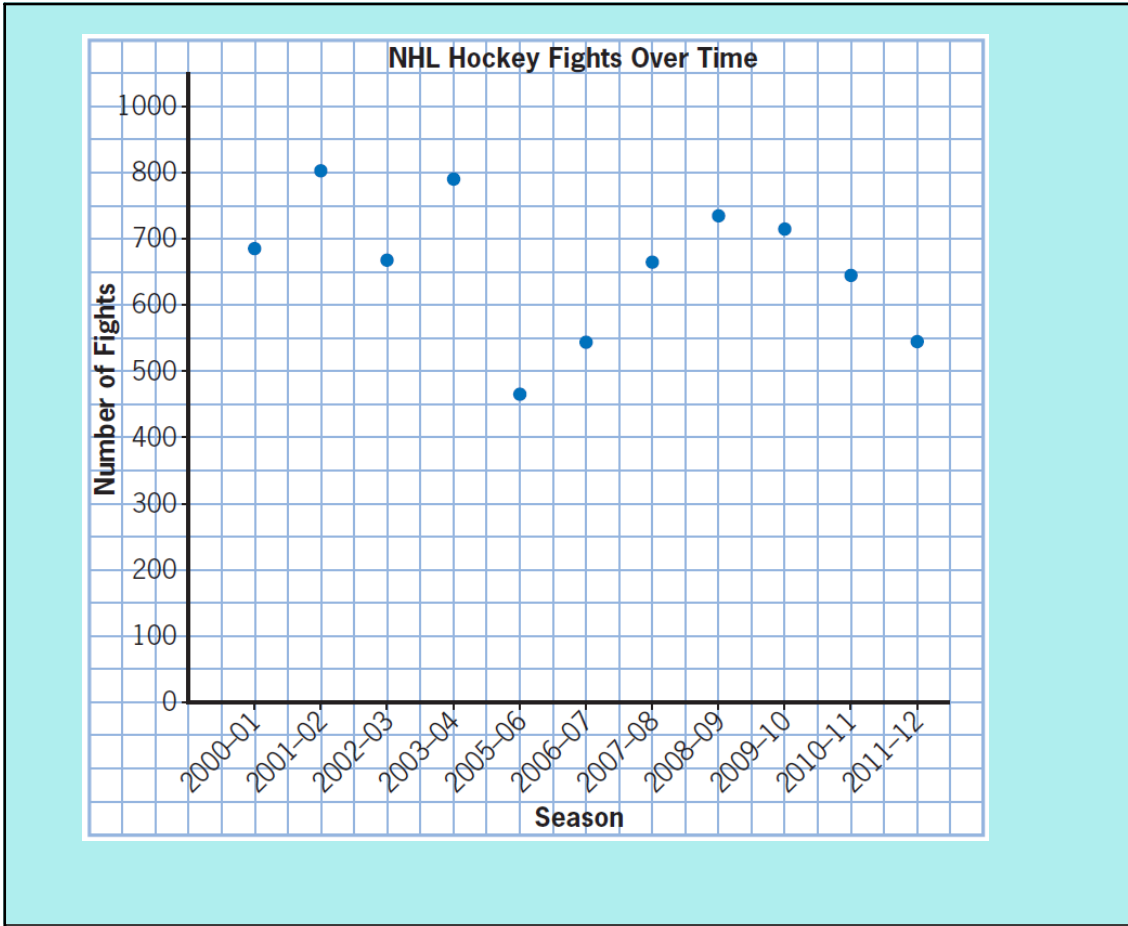
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Corrections applied to graph:

- (1) remove the outlier
- (2) increase sampling size
- (3) start vertical scale at zero
- (4) reword title to remove bias



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Assigned Work:

p.422 # 1 - 4, 8, 9a

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