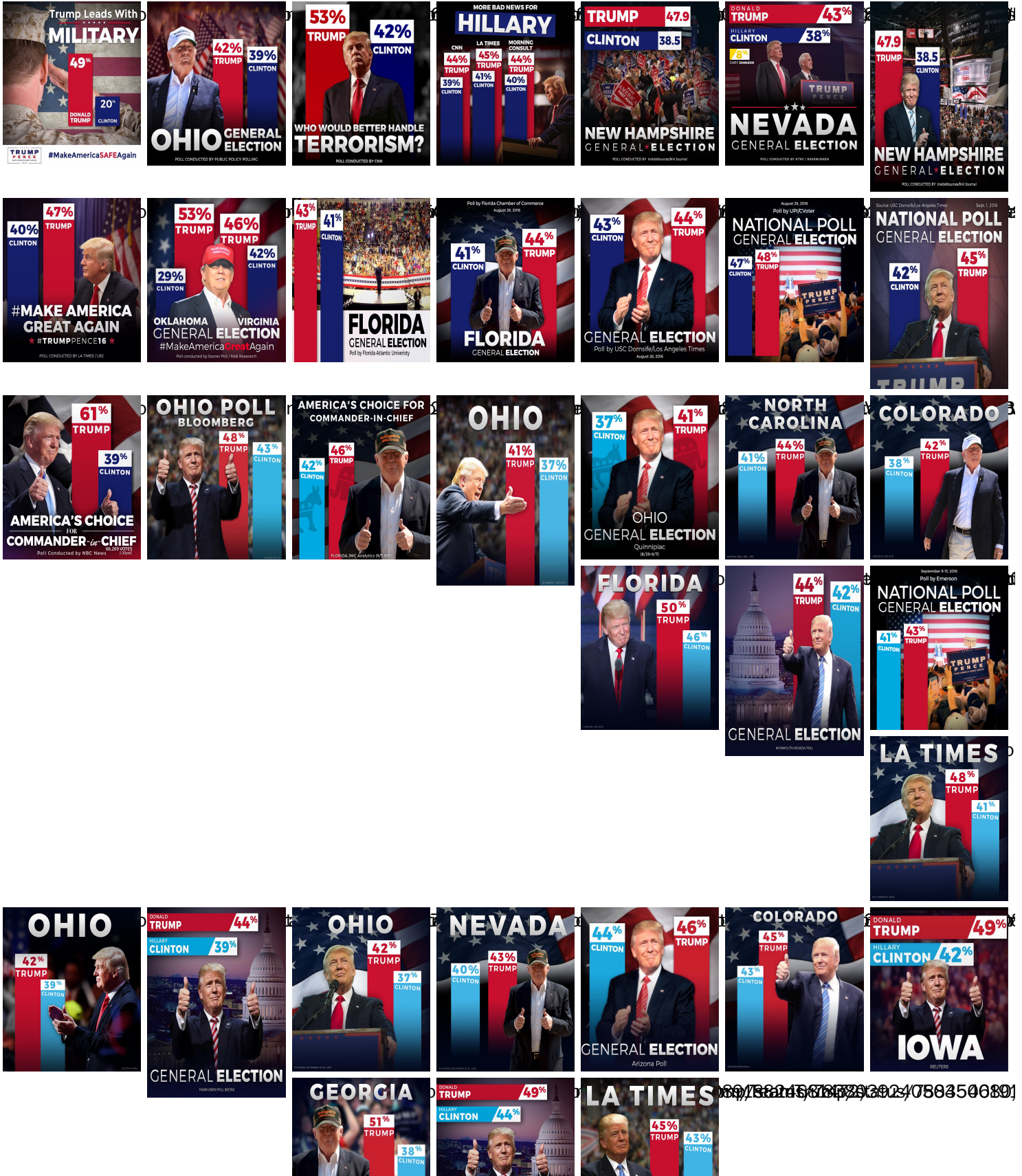


The Fix (<https://www.washingtonpost.com/news/the-fix/>)

Most of Trump's charts skew the data. And not always in his favor.





By John Muyskens (<https://www.washingtonpost.com/people/john-muyskens/>)

Oct. 21, 2016

Donald Trump's campaign is obsessed with favorable poll results, as evidenced by a graphic deluge on official social media channels. It's a marked difference from their Democratic rival who has led polling averages throughout most of the campaign. And while neither candidate has a

perfect record when it comes to

(<https://www.washingtonpost.com/graphics/politics/2016-election/fact-checker/>) spinning the data

(<https://www.washingtonpost.com/graphics/politics/2016-election/fact-checker/>), only the Trump campaign has used a combination of cherry-picked polls and misleading data visualization to paint a cheerier picture of its prospects on Election Day.

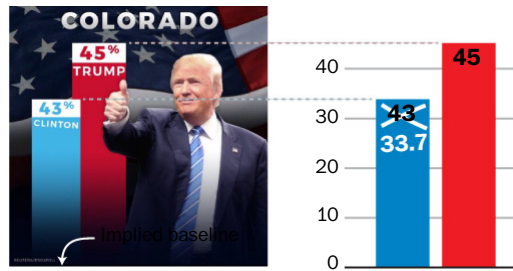
Donald Trump's campaign has posted more than 40 bar-chart graphics showing favorable poll results. Here's a chart the campaign tweeted on Oct. 5

(<https://twitter.com/realDonaldTrump/status/783808918824681472>).

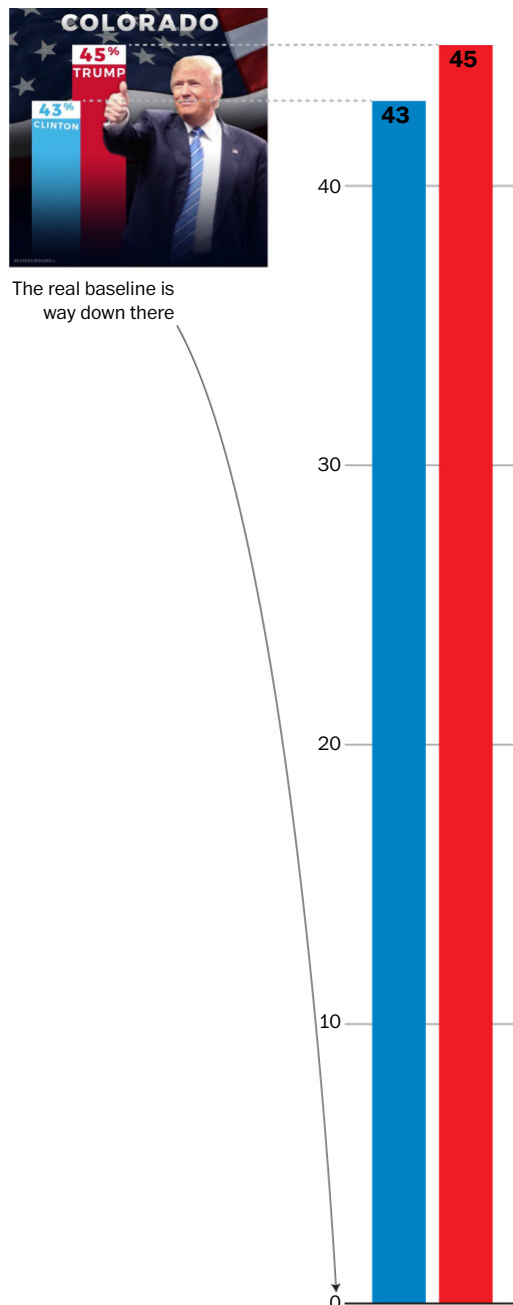
Notice anything strange about it?



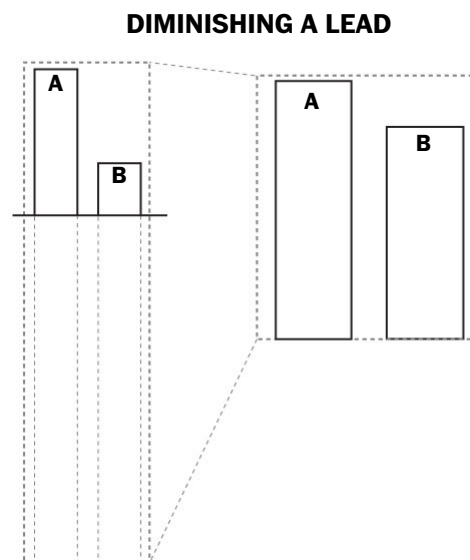
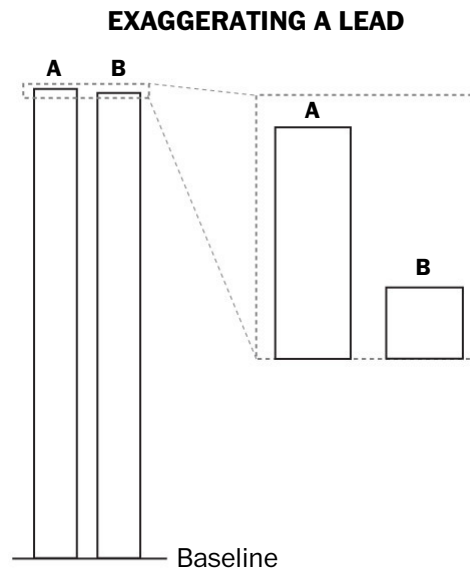
How tall are the bars in the chart? Instead of ending at a clearly defined baseline, the bars fade to black. But if we add a baseline at the bottom of the graphic, the implied scale doesn't match the numbers.



The chart visually inflates Trump's two point lead to over 11 points. If we adjust our scale to match the data, where would the baseline end up? In other words, how tall should the bars actually be?

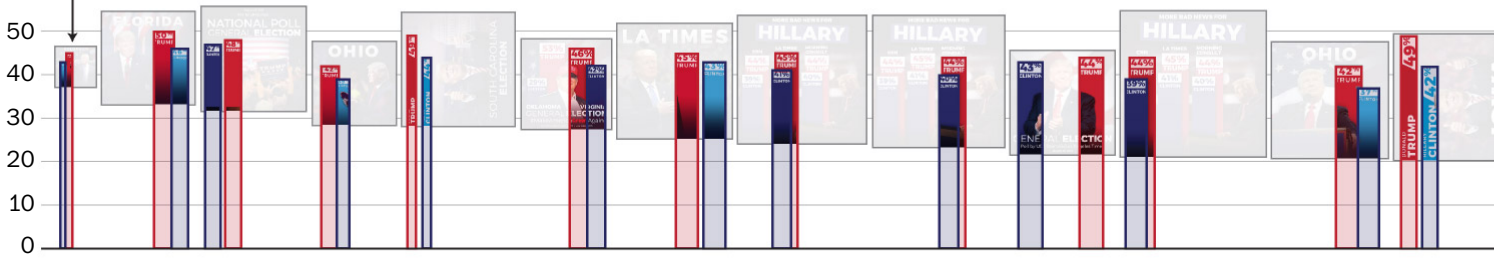


Data visualization can help people understand information by representing data with graphical properties such as size, shape or color. Bar charts represent data using length. This means that if the bars don't begin at zero, comparisons between bar lengths will distort the data — and a reader's comprehension of the numbers. In the extreme example below, bars A and B are nearly equal in length but we can exaggerate A's lead over B by cutting off the scale. The distortion can also work in reverse.



Trump's charts often distort comparisons by hiding or misplacing the baseline, mostly exaggerating his lead, but sometimes diminishing it. Here's what happens when we put all of Trump's charts on the same scale:

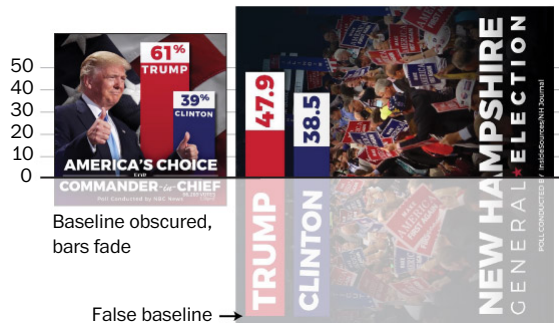
The chart above



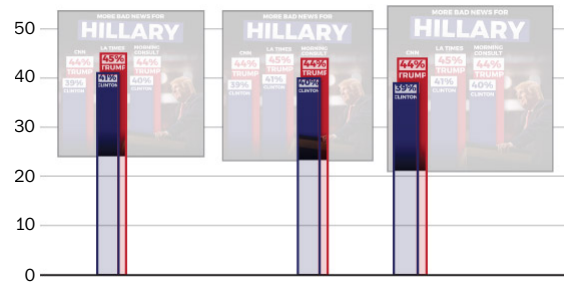
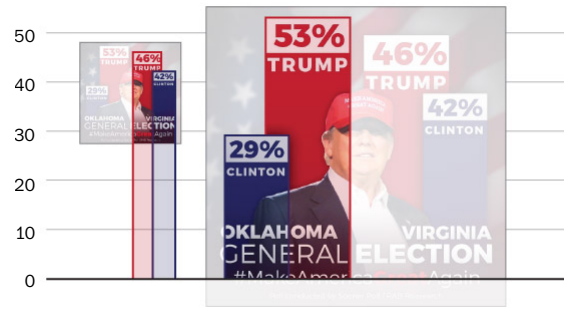
These charts exaggerate the appearance of Trump's lead.

SCROLL →

Some of Trump's charts fade to black or otherwise obscure the baseline, while others imply a baseline that doesn't match the data the charts purport to display.



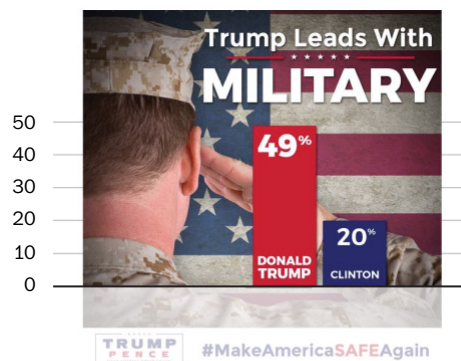
The implied scales on Trump's charts vary wildly even within the same graphic. The distortion is not always beneficial to Trump — some charts make Trump's lead over Clinton appear smaller rather than larger.



One chart, from a July 18 tweet

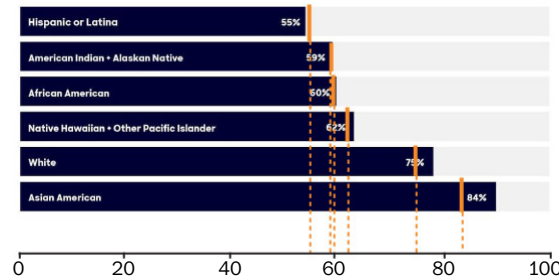
(<https://twitter.com/realDonaldTrump/status/755176368783187969>) showing a Trump lead among members of the military, accurately displayed the data. The graphic doesn't name a source, but the data appears to come from a Military Times poll

(<http://www.usatoday.com/story/military/election/2016/07/17/military-times-survey-donald-trump-hillary-clinton/87024898/>) of "active-duty troops, reservists and National Guard personnel," including third-party and write-in candidates.



What about Hillary Clinton?

The Clinton campaign posts charts sparingly compared to the Trump. They use data visualization to illustrate campaign issues and policy, rather than poll numbers. For example, here's a bar chart from the campaign's Instagram account, posted in April (<https://www.instagram.com/p/BEHAc8vEPjV/>).



Clinton's bar chart, which compares wage gaps between men and women by race, also has scale issues. The chart uses light gray bars to represent 100 percent of the median wage of white men. The bar comparing the median wage of Asian American women to that of white men is labeled 84 percent but reaches nearly 90 percent. This scale error makes the wage gap appear smaller than the data suggests it really is.

The bottom line

Bar charts should always have a clear baseline, representing zero on the scale. Bar charts must begin at zero to avoid distorting length comparisons. Whether you are viewing or creating a data visualization, check that the chosen scale does not distort the data. For bar charts, a zero baseline is the difference between data visualization and data spin.

All of Trump's charts

Date posted	Trump margin	Pollster		
July 18	+29	Military Times	Military	↗ (https://twitter.com/realDonaldTrump/status/755176368783187)
July 25	+3	PPP	Ohio	↗ (https://twitter.com/realDonaldTrump/status/757688331597668)
July 25	+11	CNN/ORC	Other	↗ (https://twitter.com/realDonaldTrump/status/757650904896139)

Date posted	Trump margin	Pollster			
July 25	+5	CNN/ORC	National	↗ (https://twitter.com/realDonaldTrump/status/757618048664829)	
July 25	+4	LA Times/USC	National	↗ (https://twitter.com/realDonaldTrump/status/757618048664829)	
July 25	+4	Morning Consult	National	↗ (https://twitter.com/realDonaldTrump/status/757618048664829)	
July 26	+9.4	InsideSources/NH Journal	N.H.	↗ (https://twitter.com/realDonaldTrump/status/758004154417559)	
July 26	+5	Rasmussen Reports/KTNV-TV	Nev.	↗ (https://www.instagram.com/p/BIVN8_uDXx0/)	
July 26	+9.4	InsideSources/NH Journal	N.H.	↗ (https://www.facebook.com/DonaldTrump/photos/a.488852220724111/1015634111111111/?type=3&theater)	
July 27	+7	LA Times/USC	National	↗ (https://twitter.com/realDonaldTrump/status/758350470402408)	
Aug. 1	+24	RABA Research	Okla.	↗ (https://twitter.com/realDonaldTrump/status/760213628926779)	
Aug. 1	+4	RABA Research	Va.	↗ (https://twitter.com/realDonaldTrump/status/760213628926779)	
Aug. 24	+2	Florida Atlantic University	Fla.	↗ (https://twitter.com/realDonaldTrump/status/768578478266458)	
Aug. 26	+3	Florida Chamber of Commerce	Fla.	↗ (https://twitter.com/realDonaldTrump/status/769331841316687)	
Aug. 26	+1	LA Times/USC	National	↗ (https://twitter.com/realDonaldTrump/status/769331841316687)	
Aug. 26	+1	UPI/CVoter	National	↗ (https://twitter.com/realDonaldTrump/status/769331841316687)	
Sept. 2	+3	LA Times/USC	National	↗ (https://www.facebook.com/DonaldTrump/photos/a.488852220724111/1015634111111111/?type=3&theater)	
Sept. 8	+22	NBC*	Other	↗ (https://twitter.com/realDonaldTrump/status/773972305642913)	
Sept. 12	+5	Bloomberg	Ohio		
Sept. 14	+4	JMC Analytics	Fla.	↗ (https://twitter.com/realDonaldTrump/status/776058538137452)	
Sept. 14	+4	Quinnipiac	Ohio	↗ (https://www.facebook.com/DonaldTrump/photos/a.488852220724111/1015634111111111/?type=3&theater)	
Sept. 14	+4	Quinnipiac	Ohio	↗ (https://www.instagram.com/p/BKVty7zD9M2/)	
Sept. 14	+3	Suffolk	N.C.	↗ (https://www.instagram.com/p/BKVtvPojtXc/)	

Date posted	Trump margin	Pollster		
Sept. 16	+4	Emerson	Colo.	↗ (https://twitter.com/TeamTrump/status/776875054936317953)
Sept. 16	+4	CNN/ORC	Fla.	↗ (https://twitter.com/TeamTrump/status/776866520030937088)
Sept. 17	+2	Monmouth	Nev.	↗ (https://www.facebook.com/DonaldTrump/photos/a.488852220724...type=3&theater)
Sept. 18	+2	Emerson	National	↗ (https://twitter.com/TeamTrump/status/777540363670155271)
Sept. 19	+7	LA Times/USC	National	↗ (https://twitter.com/TeamTrump/status/778061141507321856)
Sept. 21	+3	Suffolk	Ohio	↗ (https://twitter.com/TeamTrump/status/778633414777839616)
Sept. 22	+5	Rasmussen Reports	National	↗ (https://www.instagram.com/p/BKrlQlSjnm/?hl=en)
Sept. 22	+5	FOX News	Ohio	↗ (https://www.instagram.com/p/BKqYtLYDnBa/)
Sept. 22	+13	FOX News	Nev.	↗ (https://twitter.com/TeamTrump/status/778956014360166401)
Oct. 5	+2	Reuters/Ipsos	Ariz.	↗ (https://twitter.com/realDonaldTrump/status/783808918824681)
Oct. 5	+2	Reuters/Ipsos	Colo.	↗ (https://twitter.com/realDonaldTrump/status/783808918824681)
Oct. 5	+7	Reuters/Ipsos	Iowa	↗ (https://twitter.com/realDonaldTrump/status/783808918824681)
Oct. 5	+13	Reuters/Ipsos	Ga.	↗ (https://twitter.com/realDonaldTrump/status/783808918824681)
Oct. 5	+5	Reuters/Ipsos	S.C.	↗ (https://twitter.com/realDonaldTrump/status/783803924050356)
Oct. 18	+2	LA Times/USC	National	↗ (https://twitter.com/TeamTrump/status/788454619106021376)

*This appears to be the partial results of a non-scientific Twitter poll (<http://www.nbcnews.com/storyline/commander-in-chief-forum>). The Trump campaign did not respond to a request for clarification about the source of this poll.

More stories

The 2016 Election Fact Checker (<https://www.washingtonpost.com/graphics/politics/2016-election/fact-checker/>)

The true, the false and everything in between.