

AMATYC 2016 – Liars will figure: Illuminating numerical deception

Directions: See if you can pick out any cues of potential deception from the politician quotes below. Also, think of any underlying mathematical concepts that would be important in teaching the recognition of numerical deception.

1. Pol G: People's [Affordable Care Act] premiums ... are going up 35, 45, 55 percent.
2. Pol K: We have more gas and oil rigs, whether you like it or not, pumping today than all the rest of the world combined today. Combined today. And it's growing.
- 3 Pol H: We have record numbers of people living in poverty today.
4. Pol J: Many of the alarmists on global warming, they've got a problem because the science doesn't back them up. In particular, satellite data demonstrate for the last 17 years, there's been zero warming. None whatsoever.
5. Pol A: The auto companies have now repaid taxpayers every dime and more of what my administration invested in.
6. Pol C: [In response to San Bernadino attack] We lose 33,000 people a year already to gun violence.
7. Pol H: 92 percent of the jobs lost during Barack Obama's first term belonged to women.
8. Pol A: States with the most gun laws tend to have the fewest gun deaths.

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Responses by Politifact.org (PF) and Factcheck.org (FC):

1. We reached out to the [Pol G] campaign but didn't hear back. Experts we talked to and the data show that while there are examples of premium increases that large, they're not the norm. ... Some insurance plans in the federal exchange will see price hikes at the levels that [Pol G] is suggesting. But he's cherry-picking the high end of premium changes to come. Estimates for the national average are far below [Pol B's] figures, ranging from 4.4 percent to 13 percent. (PF, Linda Qiu, 10/25/2016) Half-true. Cherry-picking
2. [The data cited] does not include data for countries where reliable information is difficult to obtain. The company's international rig counts do not include, for example, all of Russia and land rigs in China. (Update after receiving China and Russia numbers: [Pol K]'s claim that the North America rig count is "growing" is also false. He could have made that case a few months ago, but plummeting crude oil prices have forced companies to shut down rigs.) [FC, Lori Robertson, 3/18/2015] Exaggerate
3. In terms of raw numbers, [Pol H] is correct that more people live in poverty today than ever in the 56 years the census has been keeping track. However, absolute value is an inappropriate measure for poverty analysis, experts said. If we use the right measure, poverty rate, we see that poverty has decreased significantly since 1959. We rate [Pol H]'s claim Half True. [PF, Linda Qiu, 11/01/2015] Disguise
4. [Pol J] does have a point: There's been little global temperature change since 1998, and the temperatures measured are lower than what many computer models had predicted. However, focusing on that period essentially means cherry-picking a timeframe that starts at an extremely warm year and ignores that the first decade of the 21st century -- even as it's been stable -- has been the warmest on record. While scientists don't deny that there's been a recent "pause" in warming, they expect it to be a temporary trend. Not only is one anomalous period not enough to undercut longer-term projections, but other types of measurements do show evidence of continued global warming over the past two decades, including rising ocean temperatures and shrinking sea ice. [Pol G's] statement contains an element of truth but ignores critical facts that would give a different impression, so we rate it Mostly False. (PF, Lauren Carroll, 3/20/2015) Cherry-pick
5. We'll note that losses from automaker loans were expected to be higher, and the action taken by the [Pol A] administration resulted in GM and Chrysler paying back the bulk of their loans. But to say they've paid back "every dime and more," requires considerable cherry-picking. [Pol A] doesn't count any outstanding loans made by the Bush administration, which seem to have been made with [Pol A's] quiet support and which were restructured (resulting in some losses) under the bankruptcy [Pol A's] Treasury helped manage. And to get into the black, he counts money the automakers paid back for Bush administration loans. The statement contains an element of truth but ignores facts that would give a different impression. That's Mostly False. (PF, Steve Contorno, 1/22/2015)
6. To add context to that figure, most of those deaths are due to suicide, not homicide or attacks like the one in California. ... As we've written before, gun deaths include a lot of suicides. In 2013, there were 33,636 gun deaths, and 63 percent were suicides, according to the Centers for Disease Control and Prevention. Homicides made up 11,208, or 33 percent, of those gun deaths. The rest of the year's firearm deaths included unintentional discharges, legal intervention/war and undetermined. [FC, Eugene Kiely, Lori Robertson, Robert Farley and D'Angelo Gore, with Joe Nahra and Raymond McCormack, 12/20/2015] Disguise
7. But here's what we found back in April 2012: Between January 2009 and March 2012, the total drop in employment was, according to the Bureau of Labor Statistics, 740,000. In the same period, employment for women fell by 683,000. Do the division and you get 92.3 percent. A big problem with the claim in 2012 was that it cherry-picked the starting date for assessing Obama's jobs track record. The recession began in December 2007, and he didn't take office until January 2009, when it was nearly over. It's difficult to blame any president for the economic situation he inherited. The bigger problem with [Pol H] making the same statement today is that Obama's first term continued for another 10 months. During that time, the women job numbers did a U-turn and became a net gain. (PF, Jon Greenberg, 10/29/2015) False. Cherry-pick
8. Research shows that the more gun laws a state has, the fewer gun deaths there are. [Pol A] gets some wiggle room because he said "tend to" as opposed to making a definitive statement. The problem is, however, that this is an overly general statement. The research doesn't prove a universal cause-and-effect relationship between gun laws and fewer gun deaths; it might just be a correlation. Some laws are more effective than others, and other cultural, demographic or socioeconomic factors might be the driving force behind the number of gun deaths in different states. We rate [Pol A]'s claim Mostly True. [PF, Lauren Carroll, 10/06/2015] Presume