

Find two or three relevant examples to support each of the following generalizations.

1. Some billionaires are college dropouts.
2. Most fruits are sweet when they're ripe.
3. England has produced famous musicians.

Each of the following arguments uses an unrepresentative set of examples. Suggest a specific way to improve each argument by changing the way the examples are chosen. Briefly explain why those changes would make the argument examples more representative.

1. Republican voters are starting to lean more libertarian. An extreme libertarian candidate easily won the most votes in a mock election held at the Republican Leadership Conference. The conference, held just outside the libertarian candidates home state, drew busloads of libertarians supporters, as well as political junkies from further afield who wanted to hear from early contenders for the Republican presidential candidate.
2. Since 1938, the Harvard Study of Adult Development has followed the lives of two groups of men. One group consisted of sophomores at Harvard at the time. The other consisted of teenage boys who, at a time, lived in poor, troubled neighborhoods in Boston. Over the last seven and a half decades, Harvard researchers have checked in on these men every two years—interviewing them, looking at their medical records, and so on. This study shows one thing loud and clear: the most important thing that anyone can do to be happy and healthy is to have good relationships with other people.
3. Each package of Nestlé Food's of high-quality, freeze-dried soup products contains a postage paid survey form. The package encourage customers to complete the survey and mail it back to Nestlé Foods. Over 10,000 survey response is flooded the Nestlé offices, and they were extremely positive. Everybody loved it! Nestlé had hit upon a winning product line.

Each of the following arguments jumped to a conclusion on the basis of a dramatic statistic or a few vivid examples. In order to justify each conclusion, you need to know more about the relevant background rates. State what additional information you would need to know to calculate the relevant background rates.

1. In the second half of 2010, the University of Western Ontario did not have a single car stolen on campus. The campus police must be doing an outstanding job protecting the university.
2. Exactly zero children died from measles in the United States between 2004 and 2015. But in the same time period, 106 infants died exhibiting reactions to the measles vaccine. Obviously, the real danger here is not measles; it's the measles vaccine.
3. It took centuries for modern civilization to instill good manners in people, but all that progress is falling apart in a matter of decades. People today have far worse manners than their grandparents did. On overnight flights, for instance, people treat the plane like their own home, as if it weren't out in public. I've seen one person floss his teeth while sitting in the seat next to me, another do push-ups in the aisle, and a third nodding chicken bones onto the floor.

Each of the following arguments uses numbers in a misleading way. Explain why each arguments use of numbers does not adequately support the conclusion of the argument.

1. After the Egyptian revolution in 2011, the rich have fared far better than the poor in Egypt. The number of billionaires in Egypt doubled, while the countries average income per person only rose by 20 percent.
2. The tiny town of Vail boasts Colorado's largest ski resort. In February 2017, the local police department warned of a kind of crime wave that can only happen in a place like Vail: an 875 percentage spike in sales of fake ski lift pass—a form of fraud in which a con artist sells someone a fake pass to ride the ski lifts up the mountain. Visitors to Vail had better beware! There are ski lift scams everywhere!
3. Israels military is supposed to be the world leader in gender equality. Israel has opened 92% of the jobs in the military to women, including many combat roles. Yet, only 3% of women actually serve in combat roles. Clearly, women are not actually treated equally in the Israeli military.

Try to find a counterexample to the following generalizations

1. Baseball players make too much money.
2. Every country in the world belongs to United Nations.
3. Everything in your room right now was made outside of the United States.

For each of the following pairs of things, come up with one to three important ways in which the things are similar or dissimilar.

1. Being a student and having a job
2. Planet Earth and a living organism
3. Your brain and a computer
4. Children and butterflies
5. A mouse and an adult human