

Rounding when reporting statistical results

Helpful guidelines on rounding when reporting statistical results:

1. While it often makes sense to round decimal values to make them easier to read (e.g. 5.69 to 5.7), it is rarely appropriate to round whole numbers (e.g., 569 to 570), unless working with *very* large numbers.
2. When reporting decimal values, choose a level of precision that is relevant for the scale you are working with. For example, *proportions* are often rounded to three decimal places. To see why, recall that proportions range between 0 and 1. Rounding from, say, 0.4746 to 0.475 loses little information. However, rounding from 0.4746 to 0.5 does (see #3 below). There is little gained by carrying proportions out to many decimal places (e.g. 0.47461328), and doing so can make results hard to read.
3. Rounding decisions are especially important when making comparisons between values. For example, suppose the proportion supporting candidate A is 0.475 and the proportion supporting candidate B is 0.484. If one were to round these to the nearest hundredth, both values would equal 0.48. If one were to round to the nearest tenth, both would equal 0.5. Rounding obscures the fact that support for these two candidates differs by almost a full percentage point (0.009). When making rounding decisions, consider how relevant the decision is to the scale of your original variable.
4. When computations are made prior to reporting a result, do not round until your computations are complete. When rounding is done beforehand or in intermediate steps, it can lose important information, which is then compounded by multiplication and division.
5. Here are a few rules of thumb:
 - When reporting means and standard deviations, round to one more decimal place than your original data. For instance, if your data are in whole numbers, round its mean to 1 decimal place. (If the original values are large whole numbers—say greater than 100—you can round to the nearest whole number).
 - Round proportions, probabilities, p -values, and correlation coefficients to 3 decimal places.
 - Round percentages to 1 decimal place.
 - Round test statistics (e.g. z or t) to 2 or 3 decimal places.