

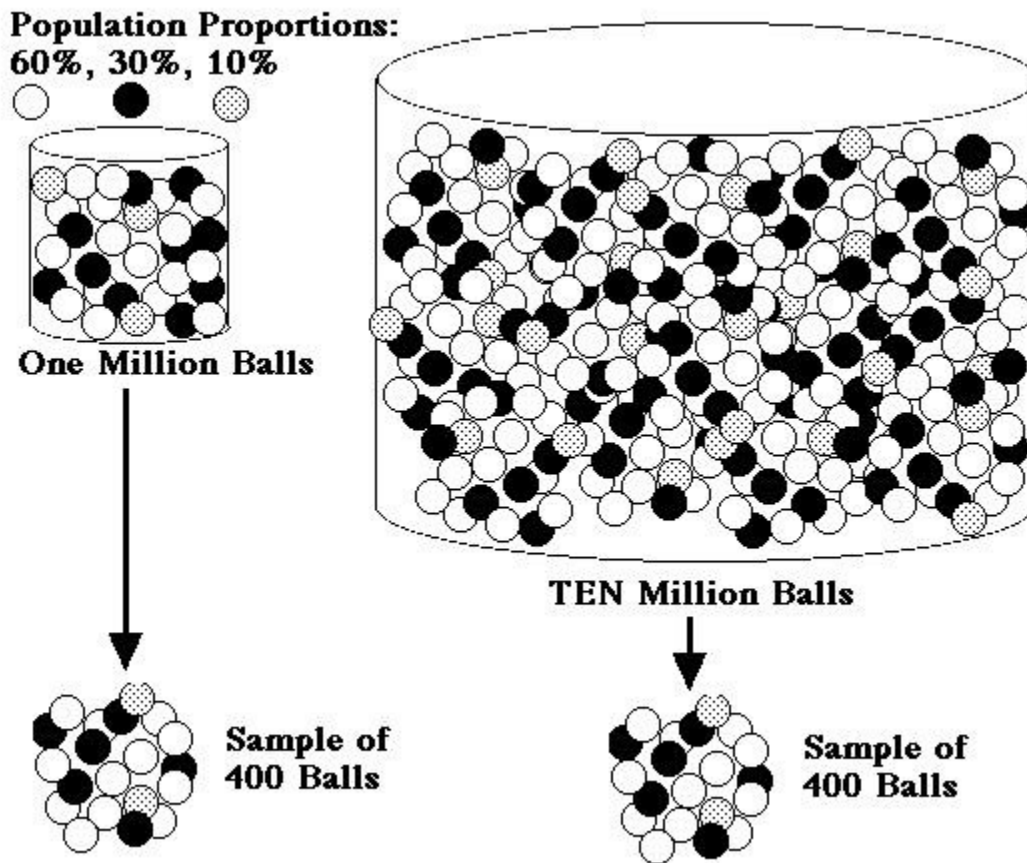
January 2005 Meeting: Brian Sanderoff on "The Science of Polling"



At the Jan. 12th meeting, NMSR heard Brian Sanderoff of Research and Polling, Inc., on "The Science of Polling." Sanderoff's group does polling for the Albuquerque Journal, KOAT TV7, and many other groups. Polls can cost anywhere from 8 to 15 thousand dollars, and up to 35 thousand for advanced political efforts. Research and Polling, Inc. (hereafter R&P) has about 30 full-time pollsters, and sometimes also needs external phone banks of up to 200 callers, depending on demand.

R&P does some qualitative work (like focus groups), but mainly performs quantitative polling. The latter can be done by telephone, door-to-door, by mail, or by the internet. Each method has its own pro's and con's. It's easy to generate a large, random sample with telephone surveys; high response rates can be achieved, and sampling error can be calculated precisely. The phone format allows for top-of-mind image or awareness questions also, but has its own problems (telephone poll burnout, for one). For polling about things like job satisfaction, however, self-administered mail surveys can have some advantages. Respondents can be anonymous, everyone in the Universe (e.g. the Corporation or Division, etc.) can be polled, answers can be written out leisurely and thoughtfully, issues can be ranked, written responses may be more candid, and so on. This method works best when the Universe being polled has a vested interest in the endeavor (such as a hospital's physicians). Internet polling can have very fast turnaround times at very low costs, but are less reliable because of non-random sampling bias, self-selection bias, and the representativeness of the "sample." For example, the answers to the question "Do you Google?" will be very different in an Internet poll than in a random telephone survey.

Brian explained how the "plus-or-minus" figures given for errors in polls depend not on the population size, but on the sample size instead. It's not the size of the Universe (New York City versus Rio Rancho), but the sample that counts. The basic principle is shown in the figure below.



Poll accuracy depends on sample size, not on population size. If both of the two different-sized populations of colored balls above (one million versus 10 million) have the same proportions of colored balls, then samples of 400 balls drawn from either the one or the 10 million containers will be similar in proportion of colors. Using less than 400 in a sample would increase the polling error, and more than 400 would decrease it. However, the polling error in a sample of 400 is the same if that sample is from tiny little Torrance County or from the whole United States, given reasonable polling conditions.

Brian mentioned the simple formula that describes polling errors: for a 95% Confidence Interval (meaning that you get a wrong result only once out of 20 trials on average), the Standard Score is 1.96 standard deviations. For worst-case error, the expected split is 50/50 (use the last two presidential elections as examples). If the number to be sampled, N , is about 400, then the "Maximum Sampling Error" is $\text{SQRT}(\% \text{For} * \% \text{Against} / N) * 1.96 = \sqrt{(0.5 * 0.5 / 400)} * 1.96 = \text{about } 4\%$. For $N = 200$, the error is $\pm 7\%$, while for $N = 1000$, the error is $\pm 3\%$. If the decision is lopsided (say, 90%/10%, then the sampling error is reduced: for $N = 400$, a 90% / 10% split would yield expected error of $\sqrt{(0.9 * 0.1 / 400)} * 1.96 = \text{about } 2.4\%$.

Brian spent a lot of time talking about polling problems, such as biases. Major biases include low response rates, under-represented demographics (like young adults with cell phones only), language, content, social stigma, respondent expectations, behavior versus attitude, and so on. There are various remedies for these biases, such as ensuring demographic quotas, multiple callbacks, and so forth. Cell phones, the Internet, and the "Do Not Call List" mindset are all changing the playing field of modern pollsters.

Sanderoff made exactly the right number of handouts (30), and predictions versus results were discussed for the recent general election in New Mexico.

In the Q&A, the importance of question preparation came up. Brian agreed that formulation of good questions was a key priority for a good poll. He also discussed "Push Polls," in which pollsters try to influence rather than test. While legitimate pollsters might ask questions like "Does X seem like an effective argument to you?", "Push" pollsters might say things like "Would you still vote for X if you knew he had a DUI? Was a child molester?"

A lively discussion ended the evening. NMSR thanks Brian Sanderoff for a fascinating discussion.