

Sampling
Student's Name
Institutional

Sampling

Sampling bias occurs when a sample is selected in such a way that some target members of the population are omitted or is less likely to be included in the sample than others. There are various examples of systematically biased sampling done today by researchers or statisticians. One classic example is the sampling from internet panels (Source Wikipedia, LLC Books, 2011). A sample is randomly selected from people who have signed up to be members of an internet panel. The sample could be done randomly, but the population from which the sample is selected from is comprised of people who are only signed up as members of that particular internet panel, hence biased (Source Wikipedia, LLC Books, 2011). This bias is usually experienced by those who carry out polls especially on social media platforms such as Facebook among others.

Another example is opt-in samples where respondents self-impose themselves to be the representatives of the entire population. This is common with dial-in polls which are conducted by media groups and Internet-based polls (Heckman, 2011). The characteristics of the respondents who opt-in to participate in the polls may not represent the entire population. It also locks out many people who do not opt to participate, and it may tend to include people who would like to appear in public image yet their views totally contrast with those of the rest. Another example is postal surveys which can be done by a newspaper or a magazine (Heckman, 2011). The sample will only be drawn from the people who read that newspaper locking out the rest of the population who reads other newspapers or those who do not read.

Another of systematic bias is the one encountered when genetic variations in organisms using microchips. This occurs when the microchip is created to assess only genes that are known to vary in a given population. The microchip will not pick genes that do not vary in the rest of

the population for which it was not created to. By so doing the study will be biased as a result of the discriminative nature of the microchip (Heckman, 2011).

How Random Sampling Can Be Biased in The Upcoming Elections.

Internet- based polls conducted by pollsters will generate results which might favor a given candidate just because the online poll was done at a website that was accessed by many supporters of that particular aspirant (Source Wikipedia, LLC Books, 2011). Pollsters may also pick their samples from urban areas where people's voting behaviors do not reflect those of the rural population giving a biased result. Most pollsters will use mobile phone surveys where they randomly pick voter's contacts from the voters' register (Source Wikipedia, LLC Books, 2011). There is a high probability that they would pick a sample which comprises of a population that belongs to a similar state which could be supporting a particular candidate leading to biased results. It will greatly omit those people who do not have mobile phones, or those who have changed their numbers yet are part of the target population (Rossi, 2013). This may make a favored candidate to relax as the competitor puts more efforts on the campaigns which might increase his or her popularity as the other one sits back.

How It Can Be Prevented

Systematic sampling bias can be corrected by applying sample weights. A larger weight is attached to the group that is underrepresented while a smaller weight is attached to the smaller one. For example, if a hypothetical population includes a 5 million men and 5 million women and the biased sample has 15 men and 85 women, a researcher could introduce a weight of 2.6 for men and a weight of 0.56 for women to balance the sample (Rossi, 2013). This would correct the imbalance to achieve unbiased sample.

References

- Heckman, J. J. (2011). *Sample selection bias as a specification error: With an application to the estimation of labor supply functions*. Cambridge: National Bureau of Economic Research.
- Rossi, P. H. (2013). *Experimental social programs and analytic methods: An evaluation of the U.S. Income maintenance projects*. Amsterdam: Elsevier. Retrieved from Experimental Social Programs and Analytic Methods: An Evaluation of the U.S. Income Maintenance Projects.
- Source Wikipedia, LLC Books. (2011). *Sampling (Statistics): Census, Sample, stratified sampling, sampling bias, statistical unit, opinion poll, statistical survey, margin of error*. Memphis: General Books LLC.