

# [Sampling assignment](https://assignbuster.com/sampling-assignment/)

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Sample Technique Part Comparing Sampling Techniques First sample Weed Patch school is equally large as compared to any population for the purpose of research. The population of 100 students is a mere representation in the sampling technique of the general population of the school.   
The drawing of three samples consisting of 20 students each of the sample population stated is carried out in unbiased manner and randomly chosen without any prejudice for the purpose of accuracy of the information we want to derive. The selection of the students for each sample was done on the basis of random selection. The student were hand-picked to constitute a team of 20 students without condition or any other consideration (be it a student of any level, of any particular gender or age).   
The list of the first sample is:   
Student Days   
ID Absent   
10   
21   
33   
41   
51   
64   
713   
82   
95   
101   
112   
121   
133   
141   
151   
164   
173   
1811   
193   
208   
The comparison of the average calculated from the first sample which is 3. 4 with the population average which is 5. 85 show a deviation of -2. 45.   
The result of the average of the sample in comparison with the population is showing a relative large deviation since the first sample is just a mere representation of the whole population constituting 20% of the whole population in general. Another aspect of the big deviation is the existence of extreme values within the first sample for instance while student ID no. 1 has zero days for being absent, the student ID no. 7 has 13 days of absenteeism.   
The second sample   
The second sample of this sampling technique is categorically picked on the basis of gender. The technique seeks to investigate the difference created as a result of the school attendance among the boy-child vis a vis the girl-child. This second sample particularly check the absenteeism rate across the whole school for the girl-child gender.   
The list of the 20 students randomly picked from the whole population of the 100 students are as stated in correspondence with their ID numbers and the number of days a student has been absent from school over the period.   
Student Days   
ID Absent   
81 4   
82 5   
83 2   
84 11   
85 9   
86 9   
87 9   
88 6   
89 10   
90 3   
91 0   
92 7   
93 8   
94 4   
95 6   
96 10   
97 3   
98 4   
99 3   
100 8   
The statistical comparison of the population average and the second sample gives (6. 05-5. 85 = 0. 2).   
The positive deviation felt in the second sample as compared to the population average is as a result of reduction in sample space from 100 to 20 students for the sampling purposes. The average rate of absenteeism among the girls is slightly higher than the average population average, showing absenteeism is higher among girl-child in school.   
The Third Sample   
The third sample of this sampling technique entails the 20 boys among the 100 students population. This sample randomly picks at student from any grade, any age as long as he is a boy-child for this sampling purpose. Their ID numbers are recorded alongside their respective number of days one has been absent from school as follows:   
Student Days   
ID Absent   
215   
221   
2315   
2410   
2511   
263   
274   
283   
296   
309   
3114   
322   
334   
344   
351   
362   
375   
386   
3916   
405   
The statistical comparison of the third sample’s average with the population’s average gives (6. 3 – 5. 85 = 0. 45).   
The average rate of absenteeism among the boys in the school is slightly above the average rate of absenteeism in the general population of the school. The dispersion of several figures of the absenteeism among the boys within this sample becomes the basis on which the difference in averages is pegged with respect to the smaller sample size.   
Convenience sampling   
This type of sampling is based on the judgement of the researcher on a non-probability technique. The basis on which the researcher lays the unit he selects for inclusion into the sample size should be easier to access.   
Advantages   
Convenience sampling is very easy to undertake since there are no strict rules governing the sample collection.   
The informal access of population list makes convenience sampling the best for collection of information that would have been possible to get while using other techniques like probability techniques.   
Convenience sampling is less costly and minimal time consuming.   
Disadvantages   
Convenience sampling suffers from biases as a result of a number of biases.   
Being that the sampling frame is unknown, and there is no random choosing of the sample, the inherent bias in the convenience sampling shows that it is unlikely to have are presentative sample of the whole population.   
Simple Random Sample   
This technique puts every member of the population under study has equal chance of being selected. The whole process of the simple random sampling is carried in a single step with every item selected independently of the other various members of the population.   
Advantages   
There is ease of assembling the sample. It is a fair way of selection since every member has equal chance of being selected.   
It has a fair level of being a representative of the general population with luck as the only compromising factor.   
Disadvantage   
The simple random sampling requires a whole list of all the population members. This whole list are not always available for large populations.   
Systematic Sample   
The technique involves a researcher first picking the first subject or item from the population. Then, the selection of the nth subject from the population is done.   
Advantages   
1. The systematic random sampling is having high level of simplicity.   
2. It has an assurance of the population to be evenly sampled unlike the simple random sampling where only a clustered selection of subjects is sampled.   
Disadvantages   
1. A number of the lists are not readily available to the public domain and purchasing them would be expensive.   
2. The problem of having access to the list is at times a challenge, though the list may be readily available, i. e. protected privacy policies.   
Part 2: Exploring Sampling Error   
Sample A1   
Student Days   
ID Absent   
10   
415   
81 4   
21   
429   
82 5   
133   
533   
93 8   
141   
544   
94 4   
151   
554   
95 6   
164   
193   
221   
629   
2315   
The average of the sample A1 has a deviation of 5. 0-5. 85= -. 85   
Sample A2   
Student Days   
ID Absent   
6315   
2410   
645   
221   
629   
344   
7412   
351   
755   
362   
766   
375   
770   
43 2   
83 2   
41   
444   
84 11   
51   
87 9   
The average of the sample A2 has a deviation 4. 8- 5. 85= -1. 05   
Sample A3   
Student Days   
ID Absent   
45 7   
47 4   
87 9   
82   
48 0   
112   
515   
91 0   
64   
465   
86 9   
713   
474   
87 9   
82   
480   
88 6   
95   
496   
89 10   
The average of the sample A3 has a deviation of 5. 1 – 5. 85 = -0. 75   
Sample A4   
Student Days   
ID Absent   
10 1   
5015   
90 3   
173   
5717   
97 3   
1811   
589   
98 4   
193   
121   
5211   
151   
554   
95 6   
164   
5613   
96 10   
173   
5717   
The average of the sample A4 has a deviation of 6. 95 – 5. 85 = 1. 1   
Sample A5   
Student Days   
ID Absent   
97 3   
2315   
6315   
2410   
645   
2511   
6510   
10   
415   
81 4   
82   
480   
88 6   
95   
496   
89 10   
141   
544   
94 4   
151   
The average of the sample A5 has a deviation of 5. 55 – 5. 85 = -0. 3   
Sample A6   
Student Days   
ID Absent   
554   
95 6   
164   
5613   
96 10   
728   
2511   
6510   
263   
667   
283   
680   
296   
695   
3114   
7114   
334   
362   
766   
375   
The average of the sample A6 has a deviation of 6. 75 -5. 85 = 0. 9   
B   
Sample B1   
Student Days   
ID Absent   
10   
415   
81 4   
21   
42 9   
82 5   
33   
432   
83 2   
41   
444   
84 11   
51   
457   
85 9   
64   
465   
86 9   
713   
474   
87 9   
82   
480   
88 6   
95   
496   
89 10   
10 1   
5015   
90 3   
112   
515   
91 0   
121   
5211   
92 7   
133   
533   
93 8   
141   
Sample B2   
Student Days   
ID Absent   
544   
94 4   
151   
554   
95 6   
164   
5613   
96 10   
173   
5717   
97 3   
1811   
589   
98 4   
193   
593   
99 3   
208   
604   
100 8   
215   
6111   
221   
629   
2315   
6315   
2410   
645   
2511   
6510   
263   
667   
274   
6712   
283   
680   
296   
695   
309   
703   
Sample B3   
Student Days   
ID Absent   
3114   
7114   
322   
728   
334   
735   
344   
7412   
351   
755   
362   
766   
375   
770   
386   
780   
3916   
798   
405   
803   
10   
415   
81 4   
21   
42 9   
82 5   
33   
432   
83 2   
41   
444   
84 11   
51   
457   
85 9   
64   
465   
86 9   
713   
474   
Sample B4   
Student Days   
ID Absent   
81 4   
21   
42 9   
82 5   
33   
432   
83 2   
41   
444   
84 11   
51   
457   
85 9   
64   
465   
86 9   
713   
474   
87 9   
82   
544   
94 4   
151   
554   
95 6   
164   
5613   
96 10   
173   
5717   
97 3   
1811   
589   
98 4   
193   
593   
99 3   
208   
604   
100 8   
Sample B5   
Student Days   
ID Absent   
322   
728   
334   
735   
344   
7412   
351   
755   
362   
766   
375   
770   
386   
780   
3916   
798   
405   
803   
10   
415   
100 8   
215   
6111   
221   
629   
2315   
6315   
2410   
645   
2511   
6510   
263   
667   
274   
6712   
283   
680   
296   
695   
309   
Sample B6   
Student Days   
ID Absent   
3114   
7114   
322   
728   
334   
735   
344   
7412   
351   
755   
173   
5717   
97 3   
1811   
589   
98 4   
193   
593   
99 3   
208   
604   
100 8   
215   
6111   
221   
629   
2315   
6315   
2410   
645   
10   
415   
81 4   
21   
42 9   
82 5   
33   
432   
83 2   
41   
The deviation in the averages of the sample size of 40 students is slightly deviating from the general population average as compared to the average derived from the sample size of 20 students.   
This is because the more the sample size approaches the figure of the entire population the error of sampling is minimized and thus the slight deviations.   
Work cited   
Ardilly, Pascal, and Yves Tillé. Sampling Methods: Exercises and Solutions. New York: Springer, 2006. Print.