

# [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.