

THE RESEARCHER'S GUIDE TO SAMPLING: AN OVERVIEW OF CONCEPTS, METHODOLOGIES AND PRACTICAL CHALLENGES

by

Ankita Rani Mishra,

Research Scholar, P.G.Department of Law, Sambalpur University.

&

Dr. Diptirekha Mohapatra,

Assistant Professor, P.G. Department of Law,

Sambalpur University

ABSTRACT

Sampling is one of the fundamental component of the research methodology. It guides the researcher to bridge the gap between theory and empirical populations. It enables researchers to draw conclusions backed by empirical evidence by examining the representative subset of the population. When a researcher executes his research, it is impractical to study an entire population depending on the research objectives, because of many reasons may it be lack of time, resources or a large population, therefore the researcher has to find an appropriate sample size to study the characteristics of the whole population. This paper provides a comprehensive explanation and description of sampling, covering its core concepts, significance both in qualitative and quantitative research, classifications and best practices of sampling in research. This article further discusses the criteria for selecting an appropriate sampling method which follow the research objectives, population, characteristics, sample size, and available resources. It is a quite essential step in research as this stage will determine the conclusion after examination and evaluation of the data collected through sampling, thereby contributing a robust, valid and reliable research study.

Keywords: sampling, probability sampling, non-probability sampling, qualitative research, quantitative research, population, sample size.

Introduction

Research is known as systematic, scientific and organized process which is undertaken in order to understand the existing theories, verify the facts or to generate the solution to a research problem. It involves several stages, including the identification of a research problem, pursuing the systematic literature review, formulating research questions and hypothesis, selection of an appropriate research design, collection of data, analysis of it and then finally interpreting the data to find out conclusion (Singh, 2021). Among all of these stages, the collection of data holds a significant role in research as the quality and reliability of the research largely depends on the data collected. Even before this stage, comes the stage of selecting research design required to conduct our research where we formulate an appropriate method of sampling so that our sample size truly represent the target population. It helps researcher study the characteristics of the target population without even studying every unit of the population which saves time and resources, and also provides a scientifically sound and valid research (Mukti, 2025).

Sampling defined as a process of obtaining a representative subset of a bigger target population for empirical study of specific phenomena (Taherdoost, 2016). This procedure is a key methodological component and allows for making inferences from complicated populations, amidst the challenges of feasibility and logistical complexity of trying to study the whole (Lachheb & Boukhari, 2026). The sampling process is very different from the data collection process, as in this type of research design, the sample is used as a proxy for the entire population, and the validity of the study conclusions depends on the extent to which the sampling reflects the characteristics of the greater population (Sarun, 2026). This direct connection enables researchers to measure how representative the results of the study group are of the target population (Sarun, 2026 & Wang, 2024). Therefore, a careful selection is essential for attaining internal and external goodness of the empirical studies (Ahmed, 2024). The strength of the sampling process is achieved when it is able to achieve a balance between the variation of the population and the limited resources the study has available to make meaningful and credible inferences. Systematic errors can be reduced, and in doing so, the researcher has ensured the selected sample of participants or units is truly representative of the target population, by carefully aligning the sample with the target population, a well-defined sampling frame can be used (Giri, 2024).

We sample every day, all the time. One person may try one restaurant in a chain and decide that all restaurants in this chain are bad and have bad service. Thus, another individual may select a class, based on recommendations from friends who have already taken the course. Ideally, we will examine all the members of a population; however, in a survey, a dilemma must be faced: Is the entire population to be studied, or is it possible to take a limited sample and then draw a general conclusion about the entire population? There are a few steps that are usually used to conduct legal research. Research problem and literature review are the first stages and a hypothesis is being formulated. Developing the research design including sample design, after formulating the hypothesis. The hypothesis is tested by collecting data either via a census (a study of the entire population) or a sampling (a study of a subset of the population) (Singh, 2021).

Sampling is needed in research as it is quite impossible to study an entire population so the researcher uses different sampling methods to study a small subset of the target population to answer the research questions (Turner, 2020; Berndt, 2020; Andrade, 2020). The scientific purpose of sampling is that the researcher uses this subset to make inferences or to conclude with evidence about the large population (Wang, 2024; Ahmed, 2024). It makes research more feasible, faster and less expensive (Turner, 2020). It is helpful especially when the researcher has lack of time, money and resources etc (Zrineh et al., 2026). However, in some studies a full census is possible to study but that is rather an exception than a rule (Lakens, 2021).

A particularly instructive illustration of large-scale probability sampling in practice is the National Family Health Survey (NFHS) of India, which employs a multi-stage stratified sampling design to generate estimates that are representative at the national, state, and, since its fourth round, the district level.¹ In NFHS-4 (2015-16), a sample of approximately 572,000 households was covered across all districts in India, with rural villages and urban Census Enumeration Blocks selected at the first stage through probability-proportional-to-size methods, and twenty-two households randomly chosen within each selected primary sampling unit at the second stage.² This layered design demonstrates how multi-stage approaches can be combined with stratification to yield credible, nationally representative data even from

¹ International Institute for Population Sciences (IIPS) and ICF, 'National Family Health Survey (NFHS-4), 2015-16: India' (IIPS 2017) <<http://rchiips.org/nfhs/nfhs4.shtml>> accessed 31 August 2026.

² World Bank Microdata Library, 'India -- National Family Health Survey 2015-2016' (World Bank, 2018) <<https://microdata.worldbank.org/index.php/catalog/2949>> accessed 31 August 2026; see also 'Understanding India's National Family Health Survey' (Data for India, 2025) <<https://www.dataforindia.com/nfhs-explainer/>> accessed 31 August 2026.

populations as vast and socially heterogeneous as India's, and it stands as a model of applied sampling methodology for researchers designing large-scale empirical studies.

Concepts surrounding sampling

There are some concepts of sampling, the researcher must know.

(a) Sampling Unit: A set of elements that can be considered when selecting. May be one element or set of elements (members) depending on data analysis/sampling.

(b) Sampling Frame: The population from which the sample is drawn or working population. It is not the sample, but rather a working definition of the population that is the basis for sampling.

(c) Sampling Trait: The conditions used to choose the sample from the universe by the researcher. This can be either a qualitative or quantitative factor.

(d) Sampling Design: The part of the research where the samples to be observed and used in conclusions are selected. It is usually divided into two types, probability sampling and non-probability sampling with two important ones being probability sampling and non-probability sampling.

(e) Sampling Error: The difference between the sample value and the value of the population. A sample is merely a sample of the population, so there will be some differences between the results and a census, which is what creates sampling error.

(f) Sample Size: The criterion of effectiveness, representativeness, reliability and flexibility should be adhered to in optimum sample preparation, according to E.K. Panten. The number of sample depends on the kind of population, number of classes, the amount of accuracy and sampling technique.

(g) Sampling Technique: The method used to choose the sample. How it is used will depend on the problem and the scale of the problem and will be well thought-out (Singh, 2021).

Types of Sampling

If the information is collected by asking a whole class of events, it is known as a census. The universe of study is the whole area or group that is being studied. The "census" technique is collecting data in each of these universes. When some of the elements of the whole universe are observed then it is called a sample. Sample is a small portion or sample of the whole

universe and represents the general properties of the entire population. Data gathering by using sampling is called sampling. This technique includes collecting data from a small sample that is believed to be representative of a larger population (Singh, 2021).

The sampling methods are categorized into two broad heads, probability sampling and non-probability sampling (Mukti, 2025). The first category is probability sampling which is characterized by the random selection of participants where each member of the population has a known and non-zero chance of being selected (Kandola et al., 2014) (Setia, 2016). This category is the cornerstone of quantitative research as it minimizes selection bias and provides a basis for further executing the research (Guetterman, 2020). The common types of probability sampling are simple random sampling, systematic sampling, stratified sampling, cluster sampling. Simple random sampling is when every element has an equal chance of selection (Setia, 2016). Systematic sampling is when the participants are selected at regular interval (e.g., every 5th person) (Kandola et al., 2014). Stratified sampling means when the target population is divided into strata based on certain characteristics (e.g., age) and samples are drawn from each stratum to ensure proportionate representation. Cluster sampling is when the population is divided into clusters which are often based on pre-decided groups and the entire clusters are randomly selected for study (Ercan et al., 2007). Non-probability sampling means where the researcher selects the sample based on his judgement, convenience or certain other criteria instead of random chance (Ajitha, 2024). However, these methods cannot guarantee the statistical representativeness but they can be useful for qualitative exploration and pilot studies (Strydom, 2011). The types of non-probability sampling are convenience sampling, purposive sampling, quota sampling, snowball sampling. Convenience sampling means selecting the participants as per researchers' convenience or selecting those participants who are most accessible to the researcher. Purposive sampling means when the researcher selects the individuals who meet certain requirements or possess unique knowledge relevant to the research objectives or research question (Memon et al., 2024). When the researcher segments participants into smaller segments and sets a quota to reflect known proportions, it is called quota sampling. The selection of the participants is not random but until the quota is reached. The last one is snowball sampling which is best suited for hard to reach populations, where the researcher reaches out to initial respondents, who then reach out to others in their social network who they believe might be included in the study.

An important concept relevant to sample size determination in qualitative research is the principle of theoretical saturation, first introduced by sociologists Barney Glaser and Anselm

Strauss in their foundational 1967 work on grounded theory.³ Theoretical saturation refers to the point at which collecting additional data no longer produces new conceptual categories or further refines existing ones, thereby signalling that the sample is sufficient for the analytical purposes of the study.⁴ Unlike quantitative research, which employs statistical power calculations to fix sample size before data collection begins, qualitative inquiry treats sample size as emergent, with collection and analysis proceeding concurrently until saturation is reached, a distinction that researchers must bear in mind when justifying their chosen methodology.

Selecting Sampling Methods

There is no universal approach to choose the appropriate or suitable sampling method. This depends on the research questions, research design, hypothesis, target population and other constraints. The first question any one should ask is whether they are looking at the bigger picture or studying a particular case in detail. If someone want to make generalizations and want to use statistics to describe an entire population then he should use probability sampling as it is based on random selection to ensure fairness and representation. But if someone is interested in a population which is difficult to reach or have limited resources or the researcher does not have the list of respondents then he should most likely need to go for non-probability sampling. It is flexible and efficient, however the biggest limitation in non-probability sampling is the researcher might be subject to selection bias and not be able to extrapolate the results to a broader population (Hossan et al., 2023; Sharma, 2026). The checklist for a researcher before using any sampling method.

1. The researcher must decide his limits. He should clearly understand the research problem, research objectives, research questions, the variables in the hypothesis and target population before choosing the respondents (Spolarich, 2023; Robinson, 2014).
2. The researcher should make sure that the chosen sampling method must correspond with the overall research design (Spolarich, 2023; Mukti, 2025).

³ Barney Glaser and Anselm Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research* (Aldine 1967); as cited in Jennifer Fusch and Lawrence Ness, 'Are We There Yet? Data Saturation in Qualitative Research' (2015) 20 *The Qualitative Report* 1408.

⁴ Oliver Saunders and others, 'Saturation in qualitative research: exploring its conceptualization and operationalization' (2018) 52 *Quality & Quantity* 1893; see also Guest and others, 'A Simple Method to Assess and Report Thematic Saturation in Qualitative Research' (2020) 15(5) *PLOS ONE* e0232076 <<https://doi.org/10.1371/journal.pone.0232076>> accessed 31 August 2026.

3. The extent of precision and statistical confidence must be taken care of while choosing an appropriate sampling method (Berndt, 2020; Mukti, 2025).
4. The size and methodology should go hand in hand in determining the quality and validity of the work for which he will choose the sampling method. (Spolaric, 2023; Giri, 2024; Nanjundeswaraswamy, 2021).

The non- probability strategies are usually used for qualitative studies and the appropriate selection focuses on sample universe, sample size, sampling strategy and participant sourcing (Berndt, 2020; Robinson, 2014; Gill, 2020). However, in observational and design research the pertinent question or issue is whether a method introduces bias with respect to variables under study and thus the researcher should be careful while choosing the sampling method for his research (Altman, 1974; Cash et al., 2022). The researcher should be honest while choosing the appropriate method of sampling that whether it is practical and feasible to conduct the research using such sampling method. If a sample is not random, the researcher must not credit that as a random one rather he must cite his reasons for using a particular sampling method for a specific purpose (Setia, 2016; Turner, 2020; Zrineh, 2026).

Problems faced by a researcher in choosing the appropriate sample size

There are many problems faced by a researcher during choosing the sampling method. Some of them are explained below:

Sampling error: A sample is not a complete census and therefore an estimate of the population value based on a sample may not be equal to the actual value of the population. This is because there is a possibility of random sampling error (Haute, 2021; Sawlat & Masomi, 2025). This error decreases the precision and can lead to less accurate results particularly in small samples and/or poor sample selection. The reliability of inferences to the population are directly influenced by sampling error. The larger the probability sample, the smaller will be the sampling error, but there is no way to completely eliminate it. Very small samples will also yield estimates that are likely to be unreliable and prone to significant error (Tryer & Heyman, 2016).

Heterogeneous populations: Sampling is more difficult in heterogeneous populations as one portion of a population may not be representative of the other, which means that making broad generalizations may be less valid unless the sampling strategy has been designed to give due consideration to the diversity (Garg et al., 2024). Stratified sampling is suggested where there are important subgroups that differ. Stratification results in populations being grouped into

more homogenous groups or strata which makes representation and accuracy more accurate. This is particularly well suited for subpopulations that are heterogeneous (Nanjundeswaraswamy, 2021).

In the Indian context, the challenge of population heterogeneity is especially acute, given the substantial variation in caste, religion, language, and rural-urban location that exists not only between states but frequently within a single district or region.⁵ India recognises twenty-two official languages alongside several hundred dialects, and the socio-cultural, economic, and religious profile of a population in one part of the country may differ considerably from that in another, making the construction of a sampling frame that adequately reflects this diversity a demanding methodological undertaking.⁶ Researchers conducting empirical studies in India must accordingly give careful attention to whether their chosen sampling method accounts for these structural divisions, since overlooking them risks generating findings that are valid only for the sub-population actually studied yet are incorrectly generalised to the population at large.

Selection bias: Sometimes misleading or 'deluded' conclusions can occur due to 'convenience' selection or poor 'judgement' in the selection of the sample, such that the sample does not necessarily represent the full population accurately (Giri, 2024). If, for example, the study sample is composed of affluent students and generalizations are made to all students, selection may be biased and findings may not be generalizable and results can be unreliable. Convenience samples are easily recruited, but have a greater chance of sampling bias. Probability sampling methods have advantages in terms of being able to make more generalizable inferences and generally need to be applied to a complete sampling frame, and when done will need extensive time and resources (McEwan, 2020; Polas, 2024; Walters, 2021). However, when detailed measurements are required a census may be more appropriate since its use involves compromising a little on comprehensiveness and accuracy in exchange for cost-saving (Berndt, 2020).

Thus, sampling may not be as accurate as a census; some populations may be heterogeneous, making it difficult to generalize; conclusions may be misled due to biased selection of the sample; and when 100% accuracy is necessary, sampling is not ideal. With uncontrolled

⁵ Jyoti Shankar Tripathy, Akhilesh Singh and Deepanjali Tripathy, 'The Double-Edged Sword of Consecutive and Snowball Sampling: Practical Utility Versus Methodological Compromise' (2026) 65 *Indian Journal of Psychiatry* 02537176251405469 <<https://journals.sagepub.com/doi/10.1177/02537176251405469>> accessed 31 August 2026.

⁶ 'Rural Market Research: Challenges and Methodologies' (Kadence, 2025) <<https://kadence.com/en-us/knowledge/rural-market-research-challenges-and-methodologies/>> accessed 31 August 2026.

heterogeneity, estimates may be both biased and have high variance. Findings from studies on the same question can differ, depending on the population characteristics.

Advantages and Disadvantages of Sampling

There are several reasons why sampling is advantageous. First, it is rarely practical to study a whole population to answer questions: it can take a long time and cost a lot of money. These are greatest when the sampling method is consistent with the research objectives, the population and resource limitations (Turner, 2020; Das, 2025). For most studies it is more feasible to do a sample than a census, thereby saving time and money (Turner, 2020; Giri, 2024). It also allows the feasibility of research on large or dispersed populations and possible reduction of recruitment effort in comparison to simple random methods (Wang, 2024; Mukti, 2025).

If probability sampling is used in the proper manner, one should get estimates that are representative, unbiased and generalizable to the target population (Zhang, 2022). It allows formal statistical inference, such as estimation of sampling error, confidence intervals. A number of sampling designs take advantage of population structure to increase efficiency. For instance, a stratified sample may over-sample under-represented groups, and then use stratification weights to recover population-level estimates to conduct subgroup analysis, thus reducing the overall sample size necessary to conduct such analysis (Mukti, 2025). Cluster and multistage sampling reduces the amount of work in the field by only recruiting in selected areas or at selected stages within the population rather than across the entire population. In practice, however, sampling methods have limitations. Probability sampling provides high external validity, but requires more costs, time and expertise (Bornstein et al., 2013). Non-probability methods are useful for hard-to-reach, rare populations, and populations that are hidden which are more quickly and cost effectively collected but lack clear generalizability to a larger population. There is empirical evidence for these compromises: In a forest study, two sampling methods yielded results comparable to a census, but required less time and expense. Convenience sampling and stratification proved to be a time and cost saving technique in urban ecology, with the ability to collect additional species per unit time and compare at least on some variable (Kamalu et al., 2024).

To summarise, the primary advantages of sampling are that it is feasible, efficient and it allows for scalable inference, where researchers can draw valid inference about the population as a whole even if they could not feasibly census it, but with a suitable design.

There's no "universal advantage profile" of sampling. To get the highest level of external validity, a probability sampling method must be used, and these are generally more expensive, time-intensive, and complex. Non-probability methods, on the other hand, are more convenient, less expensive, and suitable for the study of populations that are hidden, rare, or inaccessible; they lack the same degree of statistical generalizability. These trade-offs can be substantiated with empirical studies. A forest study, for instance, showed that two sampling methods gave estimates close to a census, but were much less time-consuming and expensive. Likewise, in urban ecology, the convenience sampling plus stratification approach was time and cost efficient, found a higher number of species per unit time, and was statistically similar with regards to several measured variables. Sampling is generally convenient, efficient and scalable to inference; that is, it allows study of populations that are too large to fully census, but with proper design will provide valid population level estimates.

Sampling in Legal Research

Legal research is a traditional subject that has been seen as a doctrinal one, limited to statutory interpretation and the reading of case law and juristic literature to determine what the law is. In recent years, however, there has been a growing trend in legal scholarship to focus on empirical and socio-legal approaches that examine the way the law works in practice, and these have also become relevant to legal research (Jawale, 2012). Empirical legal research, however, is primarily distinguished from doctrinal research by its systematic collection and analysis of data, often from judicial decisions, or from patterns of statutory interpretation across jurisdictions, or from the practices of legal professionals, to examine how law works, is applied and has social effects (Epstein & King, 2002). Just as with the social scientist, the legal researcher, too, cannot possibly study all the judgements ever handed down, all the statutes ever passed, or all the litigants who have ever appeared before a court; like the social scientist, he or she must select a universe of legal material and then sample it in a representative manner (Jawale, 2012).

In India specifically, the construction of a reliable sampling frame for legal research is further complicated by the significant volume of disputes resolved through informal and sub-formal mechanisms, including lok adalats, gram nyayalayas, and community-level mediation, which

leave no systematic documentary record accessible to researchers.⁷ Samples drawn exclusively from formal court repositories consequently risk systematically excluding the experiences of disputants who have engaged with alternative dispute resolution processes, a gap that is particularly pronounced in matters of family law, land disputes, and labour relations where informal settlement is prevalent.⁸ Acknowledgement of this structural limitation in the sampling frame is essential for any empirical legal study in India, and researchers should document clearly the categories of dispute and process excluded from their sample and qualify their conclusions accordingly.

A reliable sampling frame is a particular challenge in legal research. “Cases” are not sampled from a list of individuals, but from law reports, digests, and online repositories, many of which include only reported cases and leave out settled cases, unreported orders, and cases decided outside the court process. When studying case law, researchers need to specify, at least fairly clearly, the universe from which they are sampling and the categories of dispute that they are excluding (Linos & Carlson, 2017).

Probability sampling such as random and systematic sampling has been effectively applied where the objective is to generalise from a large number of judicial decisions. The researchers compiled all the relevant district and circuit court opinions over a specified timeframe and then randomly sampled a fixed percentage of those opinions for detailed analysis, which enabled them to extrapolate their results to all published opinions on the topic (as cited in Linos & Carlson, 2017). Historical legal research has also been conducted using systematic sampling, in this case to create a manageable and representative sample of petitions to the courts of the King's Bench during the period 1500-1800, selecting those brought before the court in every fourth year (Halliday, 2010). These methods enable legal researchers to draw valid inferences about a population of legal decisions without studying all of them.

Conversely, a relatively small number of cases are used by much legal scholarship to shed light on a specific doctrinal or theoretical question, making purposive and theoretically informed sampling more prevalent in legal scholarship than in social science scholarship as a whole. Cases selected here are not necessarily statistically representative of the cases in the database,

⁷ K V Jawale, 'Methods of Sampling Design in the Legal Research: Advantages and Disadvantages' (2012) 2(6) Online International Interdisciplinary Research Journal 165 <<http://www.oijrj.org/oijrj/nov-dec2012/23.pdf>> accessed 31 August 2026.

⁸ *ibid*; see also Lee Epstein and Gary King, 'The Rules of Inference' (2002) 69 University of Chicago Law Review 1.

but are chosen because they illustrate aspects of the case that are theoretically relevant to the argument that is being made, such as whether the case was decided by a lower court, whether the case was decided in one jurisdiction or another, or whether the facts were materially different (Linos & Carlson, 2017). One such replicable method used by legal scholars is systematic content analysis of judgments, legislation and contracts, which is highly dependent on the sampling technique employed in the selection of legal texts to be analysed, whether random or purposive or stratified by court or subject matter (Salehijam, 2018). Similar considerations could be applied to qualitative legal research: a study of the social meaning attached to gun possession among youth, for example, purposively sampled a small group of incarcerated youth for in-depth interviews and then represented the qualitative data graphically using correspondence analysis, a method that allows for a methodologically rigorous interpretation of the data despite the small size of the legal sample (Harcourt, 2002).

The choices made in sampling in legal research are not just technical in nature, but have direct implications for legal and policy decisions. Empirical evidence (e.g. a sample study of sentencing outcomes) is used by courts, legislators or policymakers and the size, sampling frame and sampling method of the sample is critical to the credibility of the research and, consequently, its ability to inform legal reform (Robbennolt, 2002). However, in choosing the sampling design, legal researchers have to make deliberate and documented choices, considering the nature of the legal problem, the availability of case law or respondents, and the resources and time available, in the same way recommended for sampling design generally (Jawale, 2012). In this sense, the rise of sampling has brought doctrinal and empirical legal scholarship from anecdote and selectively chosen precedent to defensible, generalisable claims about the state and operation of law.

Conclusion

Sampling is typically required and effective, but requires choice of an appropriate and representative sampling method as well as an appropriate sample size for the study question, population and practical constraints. Sampling decisions have implications for a study's validity, reliability, precision and validity of inference beyond the sampled participants. Probability sampling is also preferred where samples are taken with the intent to make statistical inferences about the population because they are more representative, less subject to selection bias and provide more statistical generalizability.

However, non-probability sampling may be useful for exploratory studies, studies of specialized sub-populations or having less or unknown representativeness in situations where access, time, or cost restrictions may apply. The sample size should be large enough to provide adequate precision and power without making the sample too large, unrewarding or redundant. Strategies of stratification, weighting and careful construction of a sample frame are recommended to balance the sampling in the event that sampling frames are not homogeneous as well as to minimize sampling frame inaccuracy and hence keep the sample representative can be suggested. Sampling error, bias, especially in small or inadequate samples, can introduce significant error in estimates. Any differences in results among studies may reflect sampling error, differences in the population being studied, or differences in the analytic technique used. The size of the specimen must be explained in full in plans but few studies report this detail. Lastly, sampling is more than just a technical exercise; it is a part of the design that influences the credibility, precision and generalizability of the findings from a study. A good conclusion is based on the participation of the individual with a good reason to be there, as well as the number of participants and should be well defended by the researcher.

References

1. Singh, A. (2021). Basic Steps of Doing Research. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3925363>
2. Mukti, "Methods in health research: Probability and non-probability sampling," *Health Science Journal of Indonesia*, vol. 3, no. 2, 2025. DOI: [10.71357/hsij.v3i2.64](https://doi.org/10.71357/hsij.v3i2.64)
3. Kandola et al., "Sampling Methods in Cardiovascular Nursing Research: An Overview," 2014.
4. Setia, "Methodology Series Module 5: Sampling Strategies," *Indian Journal of Dermatology*, 2016. DOI: [10.4103/0019-5154.190118](https://doi.org/10.4103/0019-5154.190118)
5. Guetterman, "Qualitative, Quantitative, and Mixed Methods Research Sampling Strategies," 10.1093/obo/9780199756810-0241.
6. Ercan et al., "Misusage of statistics in medical research," *European journal of general medicine*, vol. 4, no. 3, 2007. DOI: [10.29333/EJGM/82507](https://doi.org/10.29333/EJGM/82507)
7. Ajithakumari, "Sample Size Determination and Sampling Technique," *International journal of science and research*, 2024. DOI: [10.21275/es24924103353](https://doi.org/10.21275/es24924103353)
8. Strydom, "The Support Needs of Life Orientation Teachers in the Further Education and Training Band," 2011.
9. Memon et al., "Purposive sampling: a review and guidelines for quantitative research," *Journal of Applied Structural Equation Modelling*, vol. 9, no. 1, 2024. DOI: [10.47263/jasem.9\(1\)01](https://doi.org/10.47263/jasem.9(1)01)
10. Turner, D. P. (2020). Sampling Methods in Research Design. *Headache: The Journal of Head and Face Pain*, 60. <https://doi.org/10.1111/head.13707>
11. Berndt, A. (2020). Sampling Methods. *Journal of Human Lactation*, 36, 224 - 226. <https://doi.org/10.1177/0890334420906850>
12. Andrade, C. (2020). Sample Size and its Importance in Research. *Indian Journal of Psychological Medicine*, 42, 102 - 103. https://doi.org/10.4103/ijpsym.ijpsym_504_19
13. Wang, X. (2024). Use of proper sampling techniques to research studies. *Applied and Computational Engineering*. <https://doi.org/10.54254/2755-2721/57/20241324>
14. Ahmed, S. (2024). Research Methodology Simplified: How to Choose the Right Sampling Technique and Determine the Appropriate Sample Size for Research. *Oral Oncology Reports*. <https://doi.org/10.1016/j.oor.2024.100662>
15. Zrineh, A., Al-Usta, M., & Alwawi, A. (2026). Sampling Methods and Sample Size Determination in Clinical Research: An Educational Review. *Journal of General and Family Medicine*, 27. <https://doi.org/10.1002/jgf2.70096>

16. Lakens, D. (2021). Sample Size Justification. *Collabra: Psychology*. <https://doi.org/10.31234/osf.io/9d3yf>
17. Hossan, D., Mansor, Z. D., & Jaharuddin, N. (2023). Research Population and Sampling in Quantitative Study. *International Journal of Business and Technopreneurship (IJBT)*. <https://doi.org/10.58915/ijbt.v13i3.263>
18. Sharma, L. (2026). Choosing the Right Non-Probability Sampling Design in Research. *International Journal of Atharva*. <https://doi.org/10.3126/ija.v4i1.92377>
19. Spolarich, A. (2023). Sampling Methods: A guide for researchers.. *Journal of dental hygiene : JDH*, 97 4, 73-77 .
20. Robinson, O. (2014). Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology*, 11, 25 - 41. <https://doi.org/10.1080/14780887.2013.801543>
21. Nanjundeswaraswamy, T. S., & Divakar, S. (2021). DETERMINATION OF SAMPLE SIZE AND SAMPLING METHODS IN APPLIED RESEARCH. 25-32. <https://doi.org/10.24874/pes03.01.003>
22. Giri, O. P. (2024). Choosing Sampling Techniques and Calculating Sample Size. *Indonesian Journal of Teaching in Science*. <https://doi.org/10.17509/ijotis.v4i2.75472>
23. Gill, S. (2020). Qualitative Sampling Methods. *Journal of Human Lactation*, 36, 579 - 581. <https://doi.org/10.1177/0890334420949218>
24. Altmann, J. (1974). Observational study of behavior: sampling methods.. *Behaviour*, 49 3, 227-67 . <https://doi.org/10.1163/156853974x00534>
25. Cash, P., Isaksson, O., Maier, A. M., & Summers, J. (2022). Sampling in design research: Eight key considerations. *Design Studies*. <https://doi.org/10.1016/j.destud.2021.101077>
26. Taherdost, H. (2016). Sampling Mthods in Research Methodology: How to choose a sampling technique for research. *SSRN Electronic Journal*, 5(2), 18-27. [10.2139/ssrn.3205035](https://doi.org/10.2139/ssrn.3205035)
27. Haute, E. (2021). Sampling Techniques. *Research Methods in the Social Sciences: An A-Z of key concepts*. <https://doi.org/10.1093/hepl/9780198850298.003.0057>
28. Sawlat, N., & Masomi, H. (2025). Methods of Calculating and Reducing Sampling Error. *Journal of Mathematics and Statistics Studies*. <https://doi.org/10.32996/jmss.2025.6.2.6>

29. Tyrer, S., & Heyman, B. (2016). Sampling in epidemiological research: issues, hazards and pitfalls. *BJPsych Bulletin*, 40, 57 - 60. <https://doi.org/10.1192/pb.bp.114.050203>
30. Lin, L. (2018). Bias caused by sampling error in meta-analysis with small sample sizes. *PLoS ONE*, 13. <https://doi.org/10.1371/journal.pone.0204056>
31. Kowall, B., Stolpe, S., Galetzka, W., Nonnemacher, M., & Stang, A. (2024). One Question, Many Results—Why Epidemiological Studies Yield Heterogeneous Findings.. *Deutsches Arzteblatt international*, Forthcoming. <https://doi.org/10.3238/arztebl.m2024.0135>
32. Garg, M., Dhull, D., Kalluri, N., & Agrawal, S. (2024). Understanding Sample Size Determination In Research: A Practical Guide.. *Educational Administration: Theory and Practice*. <https://doi.org/10.53555/kuey.v30i5.6040>
33. Sona, M., & Dubé, J. (2021). Sampling particulate matter for analysis - Controlling uncertainty and bias using the theory of sampling.. *Analytica chimica acta*, 1185, 338982 . <https://doi.org/10.1016/j.aca.2021.338982>
34. McEwan, B. (2020). Sampling and validity. *Annals of the International Communication Association*, 44, 235 - 247. <https://doi.org/10.1080/23808985.2020.1792793>
35. Polas, M. R. H. (2024). Sample selection in social science research: A holistic approach to methodological rigor. *Sustainable Economies*. <https://doi.org/10.62617/se.v2i1.31>
36. Walters, W. H. (2021). Survey design, sampling, and significance testing: Key issues. *The Journal of Academic Librarianship*, 47, 102344. <https://doi.org/10.1016/j.acalib.2021.102344>
37. Das, K., Imon, A. R., Meem, K. I., Barman, L., & Alam, S. (2025). A Long Walk of Survey Sampling with Modern Methodologies. *Journal of Business and Social Sciences Research*. <https://doi.org/10.3126/jbssr.v10i2.89439>
38. Kamalu, I., Niyomwungere, F., & Etikan, I. (2024). A Comprehensive Analysis of Cluster Sampling versus Multi-Stage Sampling Techniques: Methodologies, Applications, and Comparative Insights. *Pioneer Journal of Biostatistics and Medical Research*. <https://doi.org/10.61171/v02.01.52>
39. Zhang, L. (2022). Complementarities of Survey and Population Registers. *Wiley StatsRef: Statistics Reference Online*. <https://doi.org/10.1002/9781118445112.stat08352>

40. Bornstein, M., Jager, J., & Putnick, D. (2013). Sampling in Developmental Science: Situations, Shortcomings, Solutions, and Standards. *Developmental review : DR*, 33, 357 - 370. <https://doi.org/10.1016/j.dr.2013.08.003>
41. Singh R. (2021). *Legal Research Methodology* (3rd ed.). Lexis Nexis.



Journal of Multi-Disciplinary
Legal Research