

Research Designs



The design is the structure of any scientific work. It gives direction and

systematizes the research. Different types of research designs have different advantages and disadvantages.

The method you choose ^[1] will affect your results and how you conclude ^[2] the findings. Most scientists are interested in getting reliable ^[3] observations that can help the understanding of a phenomenon.

There are two main approaches to a research problem:

- Quantitative Research ^[4]
- Qualitative Research ^[5]

What are the difference between Qualitative and Quantitative Research ^[6]?



The banner features the Explorable logo at the top center. Below it, the text 'Quiz Time!' is written in a cursive font. There are three quiz cards displayed: 'Quiz: Psychology 101 Part 2' (with a roller skates image), 'Quiz: Psychology 101 Part 2' (with a fan of colored pencils image), and 'Quiz: Flags in Europe' (with a Ferris wheel image). A link 'See all quizzes =>' is located at the bottom right.

Different Research Methods

There are various designs ^[1] which are used in research, all with specific advantages and disadvantages. Which one the scientist uses, depends on the aims ^[7] of the study and the nature of the phenomenon:

Descriptive Designs

Aim: Observe and Describe

- [Descriptive Research](#) [8]
- [Case Study](#) [9]
- [Naturalistic Observation](#) [10]
- [Survey](#) [11], also see our [Survey Guide](#) [12]

Correlational Studies

Aim: Predict

- [Case Control Study](#) [13]
- [Observational Study](#) [14]
- [Cohort Study](#) [15]
- [Longitudinal Study](#) [16]
- [Cross Sectional Study](#) [17]
- [Correlational Studies in general](#) [18]

Semi-Experimental Designs

Aim: Determine Causes

- [Field Experiment](#) [19]
- [Quasi-Experimental Design](#) [20]
- [Twin Studies](#) [21]

Experimental Designs

Aim: Determine Causes

- [True Experimental Design](#) [22]
- [Double-Blind Experiment](#) [23]

Reviewing Other Research

Aim: Explain

- [Literature Review](#) [24]
- [Meta-analysis](#) [25]
- [Systematic Reviews](#) [26]

Test Study Before Conducting a Full-Scale Study

Aim: Does the Design Work?

- [Pilot Study](#) [27]

Typical Experimental Designs

Simple Experimental Techniques

- [Pretest-Posttest Design](#) [28]
- [Control Group](#) [29]
- [Randomization](#) [30]
- [Randomized Controlled Trials](#) [31]
- [Between Subjects Design](#) [32]
- [Within Subject Design](#) [33]

Complex Experimental Designs

- [Factorial Design](#) [34]
- [Solomon Four-Group Design](#) [35]
- [Repeated Measures Design](#) [36]
- [Counterbalanced Measures Design](#) [37]
- [Matched Subjects Design](#) [38]
- [Bayesian Probability](#) [39]

Which Method to Choose?

What design you choose depends on different factors.

- What information do you want? The [aims](#) [7] of the study.
- The nature of the phenomenon - Is it feasible to collect the data, and if so, would it be [valid/reliable](#) [40]?
- How [reliable](#) [3] should the information be?
- Is it [ethical](#) [41] to conduct the study?
- The cost of the design
- Is there little or much current scientific theory and literature on the topic?

Survey Guide

The full guide - [How to create a Survey / Questionnaire](#) [12]

Introduction

- [Research and Surveys](#) [42]
- [Advantages and Disadvantages of Surveys](#) [43]
- [Survey Design](#) [44]
- [Methods of Survey Sampling](#) [45]

Planning a Survey

- [Planning a Survey](#) [46]
- [Defining Survey Goals](#) [47]

Questions and Answers

- [Constructing Survey Questions](#) [48]
- [Questionnaire Layout](#) [49]
- [Types of Survey Questions](#) [50]
- [Survey Response Scales](#) [51]
- [Survey Response Formats](#) [52]

Types of Surveys

- [Selecting the Survey Method](#) [53]
- [Types of Survey](#) [54]
- [Paper-and-pencil Survey](#)
- [Personal Interview Survey](#) [55]
- [Telephone Survey](#) [56]
- [Online Surveys](#) [57]
- [Preparing an Online Survey](#) [58]
- [Web Survey Tools](#) [59]
- [Focus Groups - Pros and Cons](#) [60]
- [Panel Study](#) [61]

Conducting the Survey

- [Pilot Survey](#) [62]
- [How to Conduct a Survey](#) [63]
- [Increasing Survey Response Rates](#) [64]

After the Survey

- [Analysis and Handling Survey Data](#) [65]
- [Conclusion of a Survey](#) [66]
- [Presenting Survey Results](#) [67]

Resources

- [Questionnaire Example](#) [68]
- [Questionnaire Checklist](#) [69]

Further Reading

- ["Research Design: Qualitative, Quantitative, and Mixed Methods Approaches"](#) [70] by John W. Creswell
- ["Essentials of Research Design and Methodology"](#) [71] by Geoffrey R Marczyk

Source URL: <https://explorable.com/research-designs>

Links:

[1] <https://explorable.com/different-research-methods>, [2] <https://explorable.com/drawing-conclusions>, [3]

<https://explorable.com/definition-of-reliability>, [4] <https://explorable.com/quantitative-research-design>, [5] <https://explorable.com/qualitative-research-design>, [6] <https://explorable.com/quantitative-and-qualitative-research>, [7] <https://explorable.com/aims-of-research>, [8] <https://explorable.com/descriptive-research-design>, [9] <https://explorable.com/case-study-research-design>, [10] <https://explorable.com/naturalistic-observation>, [11] <https://explorable.com/survey-research-design>, [12] <https://explorable.com/surveys-and-questionnaires>, [13] <https://explorable.com/case-control-study>, [14] <https://explorable.com/observational-study>, [15] <https://explorable.com/cohort-study>, [16] <https://explorable.com/longitudinal-study>, [17] <https://explorable.com/cross-sectional-study>, [18] <https://explorable.com/correlational-study>, [19] <https://explorable.com/field-experiments>, [20] <https://explorable.com/quasi-experimental-design>, [21] <https://explorable.com/identical-twins-study>, [22] <https://explorable.com/true-experimental-design>, [23] <https://explorable.com/double-blind-experiment>, [24] <https://explorable.com/what-is-a-literature-review>, [25] <https://explorable.com/meta-analysis>, [26] <https://explorable.com/systematic-reviews>, [27] <https://explorable.com/pilot-study>, [28] <https://explorable.com/pretest-posttest-designs>, [29] <https://explorable.com/scientific-control-group>, [30] <https://explorable.com/randomization>, [31] <https://explorable.com/randomized-controlled-trials>, [32] <https://explorable.com/between-subjects-design>, [33] <https://explorable.com/within-subject-design>, [34] <https://explorable.com/factorial-design>, [35] <https://explorable.com/solomon-four-group-design>, [36] <https://explorable.com/repeated-measures-design>, [37] <https://explorable.com/counterbalanced-measures-design>, [38] <https://explorable.com/matched-subjects-design>, [39] <https://explorable.com/bayesian-probability>, [40] <https://explorable.com/validity-and-reliability>, [41] <https://explorable.com/ethics-in-research>, [42] <https://explorable.com/research-and-surveys>, [43] <https://explorable.com/advantages-and-disadvantages-of-surveys>, [44] <https://explorable.com/survey-design>, [45] <https://explorable.com/methods-of-survey-sampling>, [46] <https://explorable.com/planning-a-survey>, [47] <https://explorable.com/defining-survey-goals>, [48] <https://explorable.com/constructing-survey-questions>, [49] <https://explorable.com/questionnaire-layout>, [50] <https://explorable.com/types-of-survey-questions>, [51] <https://explorable.com/survey-response-scales>, [52] <https://explorable.com/survey-response-formats>, [53] <https://explorable.com/selecting-the-survey-method>, [54] <https://explorable.com/types-of-survey>, [55] <https://explorable.com/personal-interview-survey>, [56] <https://explorable.com/telephone-survey>, [57] <https://explorable.com/online-surveys>, [58] <https://explorable.com/preparing-an-online-survey>, [59] <https://explorable.com/web-survey-tools>, [60] <https://explorable.com/focus-groups>, [61] <https://explorable.com/panel-study>, [62] <https://explorable.com/pilot-survey>, [63] <https://explorable.com/how-to-conduct-a-survey>, [64] <https://explorable.com/increasing-survey-response-rates>, [65] <https://explorable.com/handling-survey-data>, [66] <https://explorable.com/conclusion-of-a-survey>, [67] <https://explorable.com/presenting-survey-results>, [68] <https://explorable.com/questionnaire-example>, [69] <https://explorable.com/questionnaire-checklist>, [70] http://www.amazon.com/gp/product/1412965578/ref=as_li_tf_tl?ie=UTF8&tag=experiresour-20&linkCode=as2&camp=217145&creative=399353&creativeASIN=1412965578, [71] http://www.amazon.com/gp/product/0471470538/ref=as_li_tf_tl?ie=UTF8&tag=experiresour-20&linkCode=as2&camp=217145&creative=399353&creativeASIN=0471470538, [72] https://explorable.com/users/admin_oskar, [73] <https://explorable.com/research-designs>