

Data Analysis & Reporting Workshop

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What is data analysis?

The process of inspecting, comparing, and transforming information in order to find interesting insights, suggest conclusions, and support decision-making.

Quantitative data analysis

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Quantitative analysis

You can use quantitative analysis to establish whether and to what extent:

1. there was a **change in outcomes over time**
 - can these changes be attributed to your project?
2. there are **relationships** in your data
 - did outcomes differ between people and groups?
 - was there correlation between different variables?

As part of conducting this analysis you can test:

- how likely it is that these results are due to chance
- the strength of relationship between variables

Kinds of data you might have

Variable type	Description	Example
Numerical	Data that has meaning as a measurement, in numbers	Test scores as a percentage
Categorical	Data that reflects characteristics and categories. Can be represented with numbers (eg: 0 for pass and 1 for fail) but those numbers are not meaningful on their own	Ethnicity, Pass/fail; Yes/No
Ordinal	Data that reflects characteristics and categories, which can be ordered. Can be meaningfully represented with numbers (eg: 1 for poor, 2 for average, and 3 for good)	Ratings on a scale from poor to excellent



Was it down to chance? T tests

T-tests help you rule out whether changes you observe are down to chance.

The test can help you establish whether a difference you observed is likely to be the result of a specific influence (like your programme!) or merely a coincidence.

T-tests yield **p-values**, which convey the **probability** that a difference you observed was a product of chance. A statistically significant result is one that is unlikely to have been caused by chance.

A statistically significant result is one where the probability that it came about by chance is less than 5%.

Establishing relationships

You are likely to want to establish whether and to what extent different variables are related. For instance:

- Participants' characteristics and performance
- Different activity leaders and participants' performance
- Your intervention and specific changes you observe

You can examine relationships in your using the following techniques:

- Cross tabulation (super simple!)
- Correlation
- Regression

Qualitative data analysis

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Qualitative analysis

Qualitative analysis can be used to:

- Establish whether there was a **change in outcomes over time**
- Establish **how and why** your project brought about changes you observed, or indeed why any expected changes weren't observed
- Support the case that your project brought about these changes (**attribution**)

As you analyse qualitative data you will be looking for themes and patterns.

Objective: To provide a comprehensive account of participant responses and behaviours.

Don't cherry-pick qualitative data that supports the claims you want to make!

Means of ensuring quality qualitative analysis

Some possible approaches:

- **Triangulation:** Compare more than one type of data for the same outcome to validate your results. For example, compare the results from interviews and observations.
- **Respondent validation:** Share your findings, interpretations, and summaries with your research subjects and ask them for feedback.
- **Reflexivity:** Have you considered and commented on how you, as a researcher, could have influenced these findings?
- **Fair dealing:** No one will have data that 100% supports their key findings. Mention the full range of results.

Be sure to mention which, if any, of these means you used in your report!

Reporting

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Good practice in reporting

In order to give the reader an accurate sense of your project, its work, and its outcomes, reports should contain:

- Your theory of change
- Numerical information on programme outputs (e.g. number of sessions run, number of people reached)
- Demographic information on programme participants/beneficiaries (e.g. ages, boroughs represented)
- An overview of your evaluation methods, including information on completion rates and sample sizes, wherever relevant
- Commentary of any limitations of your evaluation (e.g. data was unavailable, low completion of survey)
- Key findings that emerged during your analysis, including negative results
- Simple interpretations of your findings

Standard 2 Validation: What's required

1. A Standard 1 validation
2. An evaluation report measuring changes in the outcomes over time
3. Brief commentary on the results and limits of the methods you have used

Register and validate your project at:

www.project-oracle.com

How we can support you further...

1. Further Training on Analysing and Reporting...
2. Cohort Participation...
3. Events

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