

Continuous, Binary, and Count Outcomes

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Learning Objectives

Define continuous outcomes.

Define binary outcomes.

Define Poisson outcomes.

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Learning Objectives

Learn to identify continuous, binary, and Poisson outcomes.

Describe the current status of binary and Poisson power and sample size methods and software.

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Continuous outcomes are variables with “a potentially infinite number of possible values along a continuum.”

Example: When do children first walk?

Participant	Age in months
1	11.0
2	11.5
3	8.0
4	12.3

Last, 2000, p.37

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Binary outcomes are variables having only two possible values

Binary outcomes are often coded as ‘dummy variables.’

Example: Did a student graduate from high school?

Outcome	Code
Graduate	1
Do not graduate	0

Last, 2000, p. 17

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Some outcomes are in the form of counts

Example: How many car accidents occurred in Denver in the last two years?

Year	# Car Accidents
2015	320
2014	362

Last, 2000, p.136

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Power and sample size methods for binary and count data are limited

There are many approximations.

Each approximation works for a limited variety of models.

The accuracy of power approximations can be poor for experiments with small sample sizes.

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Power and sample size software for binary and count data is limited

Many pieces of software apply only to limited classes of models

There is no general software tool.

GLIMPSE does not apply for binary and Poisson outcomes.

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Review Summary

- **Continuous outcomes** are variables with “a potentially infinite number of possible values along a continuum.”
- **Binary outcomes** are variables having only two possible values
- **Poisson outcomes** are in the forms of **counts**
- Power and sample size software for binary and count data is limited

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