# Article information:

統計学入門−第1章
<http://www.snap-tck.com/room04/c01/stat/stat01/stat0109.html>

# Article summary:

1. The two main types of scientific research design are observational studies and experimental studies.

2. Cross-sectional studies are a type of observational study where researchers observe data at a certain point in time without fixing the cause or effect.

3. In cross-sectional studies, correlation analysis methods can be applied rigorously, and correlation coefficients have an accurate meaning.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article provides an introduction to statistical research design, specifically focusing on observational studies and cross-sectional studies. While the article provides a useful overview of these types of studies, there are several potential biases and limitations in the content.

Firstly, the article presents a 2x2 contingency table as a way to understand cause and effect relationships. However, this oversimplifies the complexity of causal relationships in scientific research. The article also fails to mention other important types of research designs such as longitudinal studies or case-control studies.

Additionally, the article focuses heavily on epidemiological and sociological studies, neglecting other fields where statistical research design is used such as economics or psychology. This narrow focus may limit the applicability of the information presented for readers outside of these fields.

Furthermore, while the article mentions that causal relationships cannot be verified in cross-sectional studies, it does not adequately address potential confounding variables that may impact results. This lack of consideration for confounding variables may lead to unsupported claims or biased conclusions.

The article also presents several formulas and values for measuring association between risk factors and disease outcomes. However, it does not provide sufficient explanation or context for these values, potentially leading to confusion or misinterpretation by readers.

Overall, while the article provides a basic introduction to statistical research design, its narrow focus and oversimplification of complex concepts may limit its usefulness for readers outside of specific fields. Additionally, its lack of consideration for potential biases or confounding variables may lead to unsupported claims or biased conclusions.

# Topics for further research:

* Longitudinal study design and its applications in scientific research
* Case-control study design and its advantages and limitations
* Types of biases in observational studies and how to address them
* Confounding variables and their impact on statistical research design
* Statistical methods for controlling confounding variables in cross-sectional studies
* Applications of statistical research design in fields such as economics and psychology

# Report location:

<https://www.fullpicture.app/item/78dcac487d39cceada08011739f9460c>