



# IDENTIFIKASI VARIABEL & HIPOTESIS

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# What is a variable?

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Whether we accept it or not, we all make value judgements constantly in our daily lives: 'This food is *excellent*'; 'I could not sleep *well* last night'; 'I do not *like* this'; and 'I think this is *wonderful*'. These are all judgements based upon our *own* preferences, indicators or assessment

An image, perception or concept that is capable of measurement – hence capable of taking on different values – is called a variable

A variable is a property that takes on different values. Putting it redundantly, a variable is something that varies ... A variable is a symbol to which numerals or values are attached'

A concept that can be measured on any one of the four types of measurement **scale**, which have varying degrees of precision in measurement, is called a variable

# The difference between a concept and a variable

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Measurability is the main difference between a **concept** and a variable. Concepts are mental images or perceptions and therefore their meanings vary markedly from individual to individual, whereas variables are measurable, though, of course, with varying degrees of accuracy.

A concept cannot be measured whereas a variable can be subjected to measurement by crude/refined or subjective/objective units of measurement.

| Concepts   | Variables  |
|--|--|
| <ul style="list-style-type: none"> <li>• Effectiveness</li> <li>• Satisfaction</li> <li>• Impact</li> <li>• Excellent</li> <li>• High achiever</li> <li>• Self-esteem</li> <li>• Rich</li> <li>• Domestic violence</li> <li>• Extent and pattern of alcohol consumption</li> <li>• etc.</li> </ul> | <ul style="list-style-type: none"> <li>• Gender (male/female)</li> <li>• Attitude</li> <li>• Age (x years, y months)</li> <li>• Income (\$ __ per year)</li> <li>• Weight ( __ kg)</li> <li>• Height ( __ cm)</li> <li>• Religion (Catholic, protestant, Jew, Muslim)</li> <li>• etc.</li> </ul> |
| <ul style="list-style-type: none"> <li>• Subjective impression</li> <li>• No uniformity as to its understanding among different people</li> <li>• As such cannot be measured</li> </ul>  | <ul style="list-style-type: none"> <li>• Measurable though the degree of precision varies from scale to scale and from variable to variable (e.g. attitude – subjective, income – objective)</li> </ul>  |

• As such cannot be measured

subjective, income – objective)

In research terminology, change variables are called **independent variables**, outcome/effect variables are called **dependent variables**, the unmeasured variables affecting the cause-and-effect relationship are called **extraneous variables** and the variables that link a cause-and-effect relationship are called **intervening variables**.



1. **Independent variable** – the cause supposed to be responsible for bringing about change(s) in a phenomenon or situation.
2. **Dependent variable** – the outcome or change(s) brought about by introduction of an independent variable.
3. **Extraneous variable** – several other factors operating in a real-life situation may affect changes in the dependent variable. These factors, not measured in the study, may increase or decrease the magnitude or strength of the relationship between independent and dependent variables.
4. **Intervening variable** – sometimes called the confounding variable (Grinnell 1988: 203), it links the independent and dependent variables

The second important consideration in the formulation of a research problem in quantitative research is the construction of a hypothesis.

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Black and Champion define a hypothesis as ‘a tentative statement about something, the validity of which is usually unknown’ (1976: 126).

From the above definitions it is apparent that a hypothesis has certain

characteristics:

1. It is a tentative proposition.
2. Its validity is unknown.
3. In most cases, it specifies a relationship between two or more variables

Specifically, a hypothesis serves the following functions:

- The formulation of a hypothesis provides a study with focus. It tells you what specific aspects of a research problem to investigate.
- A hypothesis tells you what data to collect and what not to collect, thereby providing focus to the study.
- As it provides a focus, the construction of a hypothesis enhances objectivity in a study.
- A hypothesis may enable you to add to the formulation of theory. It enables you to conclude specifically what is true or what is false.

- **A hypothesis should be capable of verification.** Methods and techniques must be available for data collection and analysis.
- **A hypothesis should be related to the existing body of knowledge.** It is important that your hypothesis emerges from the existing body of knowledge, and that it adds to it, as this is an important function of research.
- **A hypothesis should be operationalisable.** This means that it can be expressed in terms that can be measured.





1. Informasi penting hari ini
2. Manfaat penting dari informasi penting hari ini
3. Tindak lanjut yang dapat saudara lakukan



# Thank You!

Any Questions?