

Quantitative research

Experimental vs. Non-
experimental research

Quantitative research

- It is generally assumed in quantitative research that behavior is highly predictable
- Quantitative research holds the determinism principle (Salmon, 1984) saying that all events have a cause.
- An important point is that a quantitative research tries to make cause-and-effect relationships that enable researchers to make probabilistic prediction and generalizations (Humphreys, 1989)

- Quantitative research is said to apply a narrow-angle lens where only one or few factors are studied at the same time.
- For example, in an experimental research only one factor is studied with the other factors held to be constant or the same.

- Quantitative research tries to operate under assumption of objectivity
- It tries to be value-free and assumes that rational observers who look at the same phenomenon will basically agree on the existence and characteristics of the phenomenon.

Variables

- Variable is an important term in quantitative research, because it is the word that is usually used to describe the world (phenomenon).
- Variables can be categorized based on the level of measurement and the roles in the research.

Level of measurement

- Categorical variable: one shows the different types or categories of phenomenon
For example: gender, color of eyes, etc.
- Quantitative variable: one varies in degree or amount of a phenomenon (motivation)
- Quantitative variable is sometimes categorized as ordinal, interval and ratio

Variables based on the roles

- Independent variables: variables that are presumed to cause changes to occur in other variables
- Dependent variables: ones that change because of other variables