

# What is an Antecedent Variable? (Explanation & Example)

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April 19, 2024

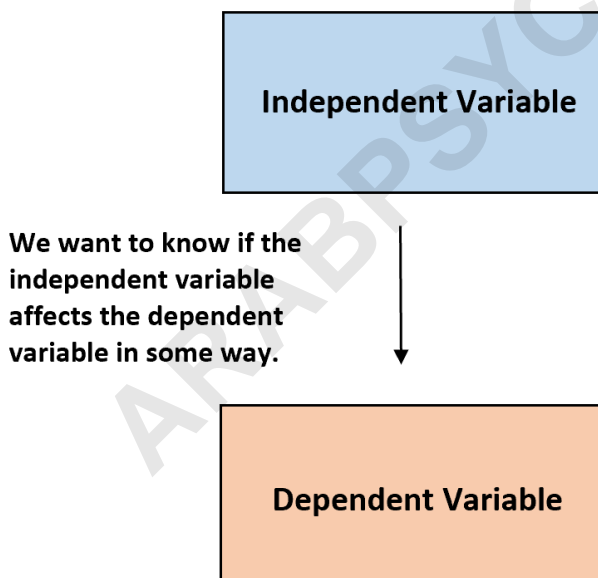
## RECOMMENDED CITATION

stats writer (2024). *What is an Antecedent Variable? (Explanation & Example)*.  
PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=137153>

An antecedent variable refers to a variable that precedes and influences another variable in a cause-and-effect relationship. It is an independent variable that is believed to have a direct or indirect impact on the dependent variable. In other words, the antecedent variable is the cause, and the dependent variable is the effect. For example, in a study investigating the relationship between exercise and weight loss, the amount of exercise would be the antecedent variable, as it is expected to have an effect on weight loss. Antecedent variables are important to consider in research as they help to establish a clear understanding of the factors that may impact the outcome of a study.

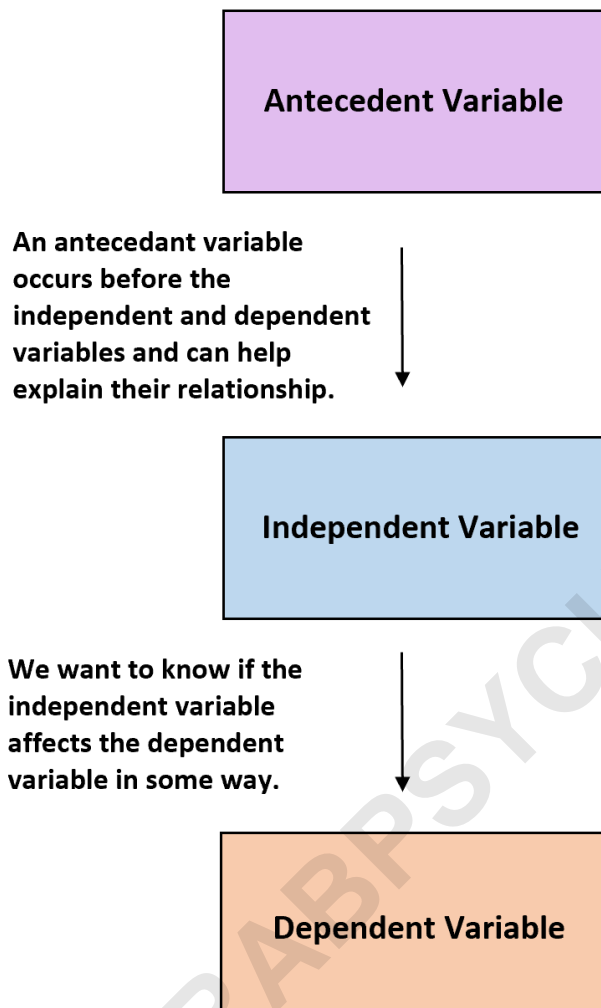
## What is an Antecedent Variable? (Explanation & Example)

In statistics, researchers are often interested in understanding the relationship between some independent variable and a dependent variable.



**However, sometimes an antecedent variable can be present.**

**An antecedent variable is a variable that occurs *before* the independent and dependent variables under study and can help explain the relationship between the two.**



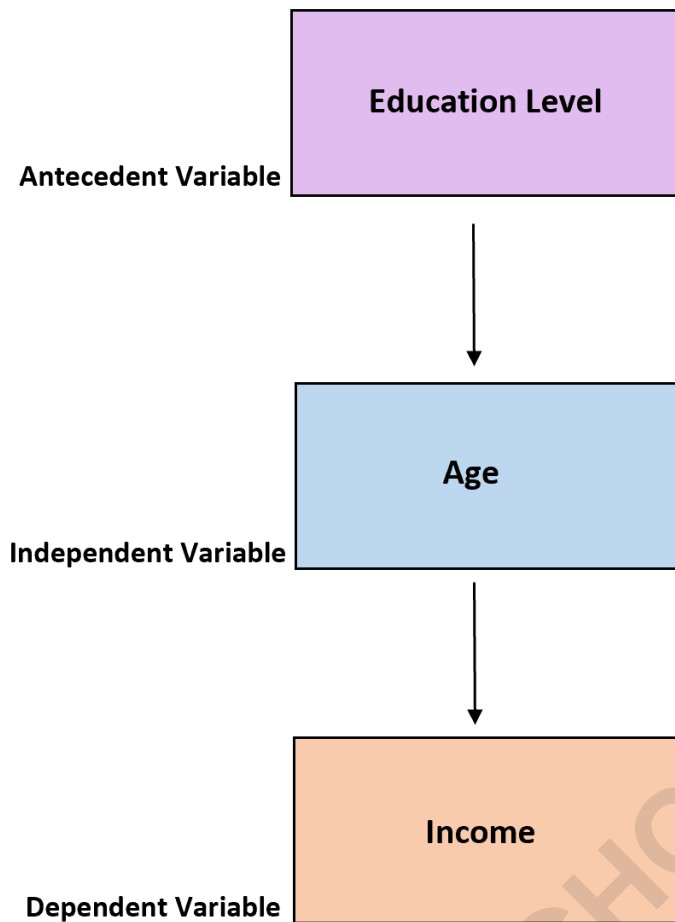
**You can remember this definition by remembering that the word *antecedent* literally means "previous or preexisting."**

### Examples of Antecedent Variables

**Antecedent variables can be present in a variety of research scenarios. Some examples include:**

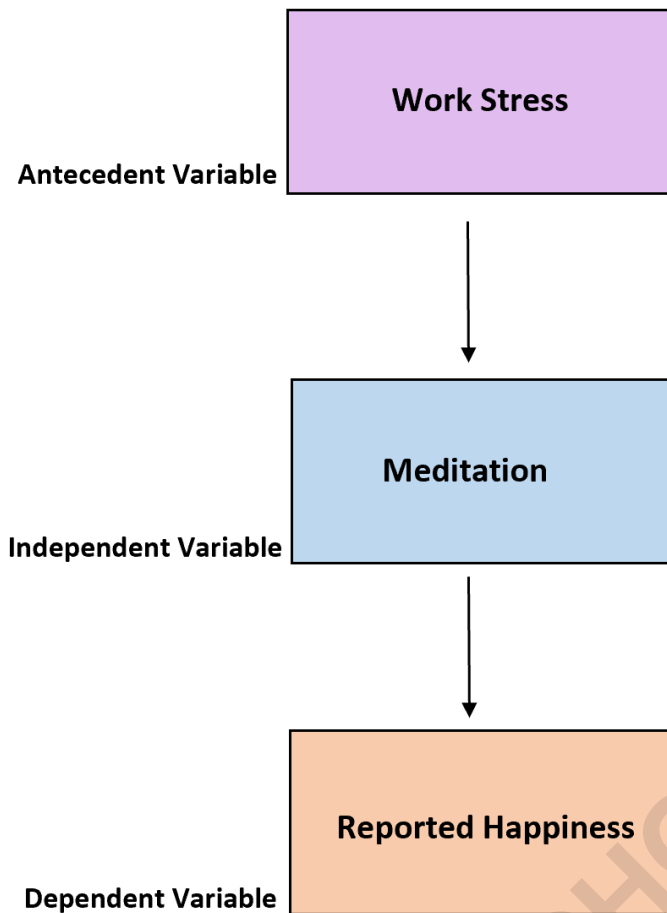
### **Example 1: Age & Income**

**Suppose researchers are interested in studying the relationship between age and annual income. However, an antecedent variable that could help explain (or partially explain) the relationship between the two variables that should be considered is *education level*, since this tends to have a correlation with both age and income.**



## Example 2: Meditation & Happiness

Suppose researchers are interested in studying the relationship between meditation and reported happiness levels. However, an antecedent variable that could help explain (or partially explain) the relationship between the two variables that should be considered is *work stress*, since this can have an effect on both free time available to meditate and reported happiness.



### How to Control for Antecedent Variables

In an experiment, researchers could potentially control for antecedent variables by using them as **blocking factors**. For example, they could divide participants into "blocks" based on their education level, then study the relationship between age and income with each block.

In regression analysis, researchers could include antecedent variables in a regression model to control for their effects. For example, researchers could include

education level as a variable in the regression model so that the regression coefficient for age could be interpreted as the average change in income while holding education level constant.

### Related Variables

Two variables that are similar to antecedent variables and that can also affect the relationship between an independent variable and dependent variable include:

1. Extraneous variables: Variables that are not of interest in a study, but can affect both the independent and dependent variables.
2. Intervening variables: Variables that come between independent and dependent variables and have a direct effect on the relationship between the two.

Be wary of each of these types of variables when conducting an experiment or a study.