I'm doctor Daisy, John,associate Professor, Goa College of Home Science. I teach the paper research methodology in home science for the Bsc honors. Home science fifth semester. It's a core paper. The Module is variables, concepts and measurement of unit 1.Research meaning, purpose and approaches. The outline of this module contains variables, types of variables, independent and dependent variables, intervening and moderating variables,extraneous variables, confounding variables and concepts, and measurement. The learning outcomes the student is able to understand and appreciate the meaning of variables, concepts, and measurement in research. Develop Capacity to conduct scientific studies. Variables available isa characteristic of feature that varies or changes within a study. Anything that can vary can be considered a variable. Available is an entity that can take on different values in research. Variables simply refers to a person, place, thing, or phenomenon that you are trying to measure in some way. For instance, each can be considered a variable because age can take different valuesfor different people or for the same person at different times.An attribute is a specific value

on a variable, for instance.

The variable student grade has two attributes, pass and fail or the variable agreement might be defined as having five attributes. One strongly disagree to disagree. Three neutral for agree 5 strongly agree. Similarly, country can be considered a variable because a person's country can be assigned a value in experimental investigations variables are called as dependent variable and independent variable the independent variable. Is the variable that experimenter changes or controls and is assumed to have a direct effect on the dependent variable. 2 examples of common independent variables are gender, an educational level. The dependent variable is the variable being tested and measured in an experiment an is dependent on the independent variable. An example of a dependent variable is depression symptoms, which depends on the independent variable, type of therapy in an experiment. The researcher is looking for the possible effect on the dependent variable that might be caused by changing the independent variable. It is very important in psychological research to clearly define what you mean by both your independent and dependent variables. Operational variables

refer to how you will define and measure a specific variable as it is used in your study. For Example, if we are concerned with the effect of media violence on aggression, then we need to be very clear.

What we mean by the different terms? In this case, we must state what we mean by the term media violence and aggression as we will study them. Therefore,you could state that media violence is operationally defined in the experiment as exposure to a 15 minute film showing scenes of physical physical assault. Aggression is operationally defined as levels of electrical shock administered to a second participant in another room. Inanother example, the hypothesis. Young participants will have significantly better memories than older participants. Is not operational. How do we define young, old or memory participants aged between 16 to 30? Will recall significantly more nouns from a list of 20 than participants aged between55 to 70 years is operationalized. The key point here is that we have made it absolutely clear what we mean by the terms as they were studied and measured in our experiment.

If it didn't do this, then it would be very difficult, if not

impossible, to compare the findings of different studies into the same behavior.Operationalization has the great advantage that it generally provides a clear an objective definition of even complex variables. It also makes it easier for other researchers to replicate a study and check for reliability types of variables.There are six basic variable times dependent, independent,intervening, moderate are. Control and extraneous variables, independent and dependent variables. In general experiments purposefully change one variable which is the independent variable, but a variable that changes in direct response to the independent variable is the dependent variable. Say there's an experimental test whether changing the position of an ice cube effects its ability to meant the change in an ice cubes position represents the independent variable, the result of whether the ice cube melts. Or not, is the dependent variable. Second one intervening and moderating variables link. The Independent variables. But as abstract process is, they're not directly observable during the experiment, for example.

If studying the use of specific teaching technique for its effectiveness, the technique represents the independent variable. Why the completion of the techniques objectives by the study participants represent the dependent variable, while the actual process is used internally by the students to learn the subject matter represents the intervening variables. By modifying the effect of the intervening variables, the unseen process is moderate. Are variables influence the relationship between? The Independent and dependent variables researchers measure moderate are variables and take them into consideration during the experiment. Sometimes Certain characteristics of the objects under scrutiny are deliberately left unchanged. These are known as constant or controlled variables in the ice cube experiment, one constant uncontrollable variable could be the size and shape of the cube.By keeping the ice cube sizes and shapes the same, it's easier to measure the differences between the cubes.

As they melt after shifting their positions as they all started out as the same size,third, extraneous variables are well designed. Experiment Eliminate as many unmeasured

extraneous variables as possible. This makes it easier to observe the relationship between the independent variable and dependent variables. This Extraneous variables, also known as unforeseen factors, can affect the interpretation of experimental results lurking variables. As a subset of extraneous variables represent the unforeseen factors in the experiment, 4th confounding variables. Another type of lurking variables includes the confounding variables, which can render the results of the experiment useless or invalid.Sometimes a confounding variable could be a variable not previously considered, not being aware of the confounding variables influence squeeze the experimental results. For Example, say the surface. Chosen to contact the Ice Cube Experiment was on assaulted Rd, but the experimenters did not realize the salt was there and sprinkled unevenly, causing some ice cubes to melt faster because the salt affected the experiments results. It's both a lurking variable and confounding variable. Concepts and measurement concepts is alabel we put on a phenomenon that enables us to link separate. Observations and to make generalizations. A name we

give to observations. An events.Concepts range from abstract to concrete. The more abstract, the less it is directly observable, and the more it needs careful definition so that we know and others to whom we are talking about. The more concrete it is, the easier it is to communicate what it means and what is included and what should be observed in doing research by simply saying the concept. Everyconcept has some kinds of properties. Associated with it,a variable is a property associated with the concept that varies when measured, the process or the steps we use in measuring a variable is the operational definition.Operational measures may not capture all of what you are concerned with, especially in the concept is rich in meaning and has a lot of dimensions. The quality or measures use terms,their reliability and their validity. A reliable measure will yield the same results. Over and over again when applied to the same thing, an elastic yardstick is unreliable. The People can use it to measure the same object and they will likely get 10 different answers. A survey question that can be interpreted in several different ways is going to be unreliable.One person may interpret it in one way and another may interpret it in another way. You

do not know which interpretation people are going to take even

answers to questions that are

clear. May be unreliable depending on how they are

interpreted. Validity refers to whether the measure actually

measures what it.

Is supposed to measure if a measure is unreliable. It is

also invalid. That is you if you don't know what it is

measuring, it certainly cannot be said to be measuring what it

is supposed to be measuring.

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New Delhi. Thank you.