PATNA UNIVERSITY

M.A (PSYCHOLOGY) SEMESTER-1

EXPERIMENTS IN PSYCHOLOGY (CC4)

TOPIC: TYPES OF EXPERIMENTS

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TYPES OF EXPERIMENTS

- **TRUE EXPERIMENT-** The true experiment is considered the gold standard of experimental design. In the simplest type of true experiment, subjects are randomly assigned to either an experimental group or control group. The experimental group only is introduced to a specific treatment manipulated by the experimenter to determine whether or not the treatment influences the behavior of subjects with respect to the response of interest, which will represent the dependent variable. At the conclusion of a true experiment, a researcher employs an inferential statistical test to determine whether or not there is a statistically significant difference between the mean scores of the two groups on the dependent variable.
- **NATURAL EXPERIMENT-** In a natural experiment, the variable that distinguishes the groups from one another is not manipulated by the experimenter but instead is a preexisting subject characteristic, such as one's gender or race. Natural experiments are designs that occur in nature and permit a test of an otherwise untestable hypothesis.

- **EXPLORATORY EXPERIMENT-** This type of experiment tries to explore the effect of change in independent variable upon the dependent variable. The experimenter does not formulate hypothesis about the relation between the dependent variable and the independent variable.
- **CRUCIAL EXPERIMENT-** This experiment investigates all hypotheses but confirms only the main hypothesis and rejects other optional hypotheses.
- **PILOT EXPERIMENT-** It is the experiment that is done with a small number of subjects before the main experiment.
- **CONFIRMATORY EXPERIMENT-** In this, the experimenter formulates a hypothesis earlier about the association between the dependent and independent variables and the purpose of the experiment is to confirm the hypothesis.

- **INDIVIDUAL EXPERIMENT-** Individual experiment has only one subject. The organismic variables like, age, gender, intelligence which are independent variables and also acts as extraneous variable are not needed to be controlled as there is only one subject in the experiment.
- **GROUP EXPERIMENT-** This type of experiment contains more than one subject or groups of subjects. When a group of subjects are used in all conditions of independent variables, then it is called single group or within group experiment, but when different groups of subjects are applied in different condition of independent variables, then it is called separate group or between group experiment.
- **CONTROL EXPERIMENT-** In a control experiment, the independent variable is systematically manipulated and the dependent variable is measured. Other extraneous variables are controlled and the hypothesis is scientifically tested.

- **LABORATORY EXPERIMENT-** This experiment can be done in laboratory. The benefit of conducting a laboratory experiment is that circumstances could be highly controlled. Some labs are equipped with television, video cameras, computer monitors, microphones and other experimental apparatuses. In other cases, the laboratory is a simple room with a table and chair. Another benefit of experiments mannered in such a controlled environment is that they can be replicated, which would otherwise be more hard to make outside the laboratory.
- **FIELD EXPERIMENT-** Experiments are not only confined to the laboratory. They are also done in naturalistic settings like schools, colleges, offices etc. It has greater external validity. Participants typically have no thought that they are taking part in a study. It is also not possible to randomly assign participants to circumstances.
- **SENSITIVE EXPERIMENT-** The experiment in which we can study the effect of independent variables also in that situation where its effect is very less.

- **RELIABLE EXPERIMENT-** The experiment which is if repeated, then we get the same results.
- **QUASI EXPERIMENT-** An experiment includes at least two different treatments (conditions), and human participants are randomly assigned one treatment. If assignment is not based on randomization, the design is called a quasi experiment. In this, the experimenter controls the manipulation of independent variables but cannot decide the to assign the equivalent groups. The subjects are not randomly assigned in experimental and control groups.
- **WHAT IF EXPERIMENT-** Researchers perform an experiment in the absence of a compelling theory just to see what happens. It is called a what-if experiment. Students often come up with what-if experiments, since these experiments require no knowledge of theory or the existing database and can be formulated on the basis of personal experience and observations. Some scientists frown on what-if experiments, the main objection to them is their inefficiency.