SOCI 323
Social Psychology

Session 3 – Doing Research In Social Psychology- Part Two

Lecturer: Dr. Peace Mamle Tetteh, Department of Sociology
Contact Information: ptetteh@ug.edu.gh

UNIVERSITY OF GHANA
College of Education
School of Continuing and Distance Education
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Session Overview

- This session is a continuation of our discussions on research methods in Social Psychology. In this second part, we examine two more methods social psychologists use in conducting research namely the correlation and experimental methods
- At the end of the session, you will be able to explain the correlational methods of research. You can explain how correlation coefficients are calculated and interpreted.
- Again, you can explain the experimental method of research. You can identify the conditions needed to make an experiment successful, as well as be able to differentiate between the various types of experiments and their advantages and disadvantages.

Session Outline

The key topics to be covered in the session are as follows:

- The Correlation Method
- Calculation and Interpretation of a Correlation Coefficient
- Advantages and Limitations of the Correlation method
- The Experimental Method
- Conditions Needed for a successful Experiment
- Types of Experiments
- Advantages and limitations of the experimental method of research

Reading List

- Read Chapter one of Recommended Text and also the article on this session posted on Sakai

Topic One

CORRELATION

Defining Correlation

- Correlation ‘is a method of research in which a scientist systematically observes two or more variables to determine whether changes in one are accompanied by changes in the other’ (**Baron and Branscombe, 2012**)

- Correlation is also defined as ‘the technique whereby two or more variables are systematically measured and the relationship between them (i.e. how much one can be predicted from the other) is assessed’ (**Aronson et al (2007)**

- Correlation is also said to be 'Research that does not involve random assignment to different situations, or conditions and that psychologists conduct to determine whether there is relationship between the variables **(Gilovich et al, 2016)**.

What is Correlation

- Correlation is a research designed to examine the nature of the relationship between two or more naturally occurring variables.
- Thus with this method, no factor is manipulated to observe its effects on another variable. Instead, naturally occurring variables are observed to see whether they occur together or are associated.

Some examples of phenomena that can be studied using the correlation method are the relationship between :

- Political Insults and Violence
- Electoral malpractices and violence
- Teenage Pregnancy and School Drop-out
- Anxiety and Affiliation
- Viewing Violence on Television and Aggressive Behaviour
- Spouse Attraction and happiness in marriage

The Correlation Coefficient

- The correlation coefficient is a statistical technique that assesses how well you can predict one variable from another (Aronson et al, 2007).
- With the correlation coefficient, a researcher can determine the direction and strength (degree) of the relationship between variables.
- The direction of the relationship between variable A and variable B tell a researcher how the two variables are related positively or negatively or if they are related at all.
- A calculation of the correlation coefficient will give you figure that range between -1.00 to 1.00.

Strengths of the Correlation Method

- It is a practical method employed to study behaviour in many real life settings such as
  - ➢ behaviours that cannot be created in a laboratory setting because it is out of one's power to do so (wars, earthquakes, random assignment to genders, race, intelligence etc)
  - ➢ behaviours which 'creation' would engender ethical issues eg. cause an accident just so you observe how people reach out to help victims or otherwise.
- It is a highly efficient method in the sense that it helps to obtain large amounts of data in a short time. This is achieved with the use of a regression analysis where the effects of several variables are assessed in relation to the dependent variable.
- Provides persuasive data about the meanings of relationships

Limitations of the Correlation Method

- The main challenge with the correlation method of research is that you cannot infer or determine cause and effect.
- This disadvantage can lead to the reverse-causality problem, which occurs whenever either of the two variables correlated with each other can as understandably or plausibly be the independent and/or the dependent variable.
- For instance, one can incorrectly conclude that viewing violence on the television causes increased aggressiveness in individuals, when, in fact, aggressive persons are simply more likely to choose to view aggressive shows.
- Or again, just as it makes sense to say that teenage pregnancy leads to school dropout the reverse is also understandable.

Sample Question

Look at the under-listed statements. Identify the independent and the dependent variables in each of the statements

- Teenage pregnancy leads to school drop-out.
- Poverty leads to corruption

Do you notice a reverse causality problem? How can this be managed?

Topic Two

EXPERIMENTAL RESEARCH

What is an Experiment?

- This is a method of research in which one variable is systematically manipulated to see its impact on another variable.
- **Baron & Branscombe (2012)** define experiments as '' a method of research in which one or more factors (independent variables) are systematically changed to determine whether such variations affect one or more other factors (dependent variables)
- One adopts this method with a clear goal in mind, wanting to investigate whether a given factor or variable influences some other form of social behaviour.
- The investigator manipulates the variable to see if it has any effect/impact on the social behaviour under study.
- If any changes are recognized in social behaviour with every manipulation of a variable, then a causal relationship is identified to exist.

Conditions for Experiments

- Experiments require:

➢ **Independent Variables**: the variable that is manipulated and presumed to be the cause of some particular outcome. It can also be said to be the variable changed/varied in an experiment

➢ **Dependent Variables**: the outcome that is measured and produced by an independent variable

Conditions for Experiments

- **Random assignment of subjects to experimental groups/conditions**: Assigning participants in experimental research to different groups randomly so they are likely to be assigned to one condition as to another
- An experiment has a control group and an experimental group. In the former group, no manipulation takes place. The variables here are used just for comparative purposes.
- It is in the latter group (the experimental group) that the manipulation takes place. It is within the experimental group that the independent variable is manipulated to see its impact on the dependent variable
- Random assignment of subjects is a procedure that ensures that each person taking part in the study has an equal chance of being exposed to each level of the independent variable. Otherwise it will be difficult to determine whether the differences observed in behaviour derive from the impact of the independent variable or from the participants own personal characteristics or both.

Conditions for Experiments

- **Hold all extraneous variables constant**. This second condition suggests that the investigator must ensure that any effects observed in behaviour are due only to variations in the independent variable and not to other factors.

- If these two conditions are not met, an experiment will be **confounded**. Thus, other factors (extraneous variables) interfere with the experimental process and as such it becomes impossible to determine whether the results are due to effects of the independent variable or from other variables.

- But it must be noted that though this is desirable it is only an **ideal**. Thus, an attempt to allow some degree of interference must be made. This is because social and human behaviour is not totally constant or predictable.
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Topic Three

TYPES OF EXPERIMENTS

Laboratory Experiments

- In laboratory experiments the researcher has absolute control over the research setting to ensure that no extraneous variables interfere with the experimental process. Because of the lab setting is highly controlled, cause-effect relationships can be established.
- Again, laboratory experiments are relatively easy to do and repeat. They often investigate narrow topics and thus do not often require huge investments in of time and money.
- The opportunity to repeat or replicate experiments make it possible to verify their authentic and reliability.
- The challenge with laboratory experiments however is that it is unlike real life. Its artificial nature makes it difficult to g the result obtained.

Field Experiments

- Field experiments are conducted in a real life settings and are likely to approximate the everyday experiences of people.
- The participants in a field experiment are unaware that the events they experience are in fact an experiment.
- Thus, people exhibit their true character and there is no pretence. As a result, we can generalize findings from field experiments.
- Field experiments are also useful when the subject to be investigated cannot be created in a laboratory setting. It has been considered a most appropriate tool to investigate schools, prisons, organization etc.

Limitations of Field Experiments

- In field experiments, it is very difficult to control extraneous variables. Researchers cannot tightly control the experimental conditions as they do in a laboratory.
- It is therefore difficult to establish cause-effect relationships.
- Also, researchers may have a difficulty in determining the appropriate setting for a field experiment. For instance if I want to know university students perception of instituting a code of dressing in Universities, I may be torn between doing the research at a university where no such codes exist and in one in which they exist.

Summary of Session

- In this session, we have looked at two more methods Social Psychologists use in the conduct of research; correlation and experiments
- The correlational method of research is used to study many real life situations. Correlations also tell us whether variables are related at all, the direction of the relationship and the strength or magnitude of the relationship.
- Experiments is the also method that establishes causality. It is however often difficult to generalise findings from experiments.

References

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- Aronson, E., Wilson, T. & Akert, R. (2010) Social Psychology. 7th Edition. Pearson Education Inc.