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Q3(a)

What are the characteristics of scientific method? Do you think that scientific method in conducting sociological research is foolproof? Elaborate

UPSC Civil Services Mains 2023 · Sociology GS 1 · 20 marks · Sociology as Science

Sociology as Science: Science, scientific method and critique; Major theoretical strands of research methodology; Positivism and its critique; Fact value and objectivity; Non-positivist methodologies.

Core demand of the question

- What are the characteristics of scientific method? Do you think that scientific method in conducting sociological research is foolproof? Elaborate
- Keep the elaboration within a 20-mark length

Revision summary

Scientific method requires evidence, clear concepts, testable claims, systematic procedure, and publicity.

Popper stressed **falsifiability**. Kuhn stressed that paradigms also organise what counts as a test.

Sociology cannot be foolproof because action is meaningful, reactive, and ethically constrained.

Durkheim's comparisons and **Weber's verstehen** must be held together.

Method disciplines dogma. It does not issue a final certificate of truth.

Introduction

Scientific method is a public way of turning questions into evidence that others can check. Sociology borrowed this ideal from the natural sciences and from Auguste Comte's positivism. The method has stable characteristics. It is not foolproof when the object is meaningful human action.

Body

Characteristics

- **Empirical reference:** claims must meet observations, not only authority.
- **Conceptual clarity:** terms such as class or anomie must be defined so that another worker can use them.
- **Hypothesis and test:** a stated relation is exposed to data that could fail it, which Karl Popper later called **falsifiability**.
- **Systematic procedure:** sampling, measurement, and recording follow a plan that can be reported.
- **Logical inference:** induction from cases and deduction from theory are both disciplined.

- **Replication and publicity:** others must be able to repeat or reanalyse.
- **Provisionality:** findings are open to revision, which Thomas Kuhn described as the life of paradigms, not as a single climb to final truth.
- **Durkheim's** suicide study displayed rates, comparison, and the search for concomitant variation.

Is it foolproof in sociology?

- No. Foolproof would mean that the same procedure always yields the same true map of society. Sociology does not have that guarantee.
- **Max Weber's verstehen** requires interpretation of motive. Two trained readers may still disagree on a text or a rite.
- The Hawthorne studies showed that the act of observation changes work behaviour.
- Values enter the choice of problem. **Weber** asked for value neutrality in the analysis, not in the choice of why a topic matters.
- Human subjects lie, forget, and perform for the interviewer, which Goffman makes ordinary.
- Experiments on people face ethical limits that physics does not face in the same way.
- Historical uniqueness, which Wilhelm Dilthey and later historicists stressed, limits the covering-law model.

What still holds

- The method is a control on dogma. It is not a machine that cannot err.
- Mixed methods, triangulation, and reflexivity reduce error without producing certainty.
- Feminist and interpretative critiques correct positivist blindness. They do not licence invention.
- Indian field studies, from M. N. Srinivas at **Rampura** to later village restudies, show both the power of method and the revision of earlier findings.

Elaboration in one line of judgement

- Treat scientific method as necessary discipline. Treat foolproof as a false promise in a science of meaning, power, and historical change.

Flow diagram

Scientific method -> Empirical test
Scientific method -> Public replication
Scientific method -> Revision
Sociological object -> Verstehen values ethics
Verstehen values ethics -> Not foolproof
Empirical test -> Not foolproof

Conclusion

Scientific method in sociology is empirical, public, systematic, and revisable. It is not foolproof, because meaning, values, reactivity, and ethics block a laboratory guarantee. **Durkheim** showed what comparison can do. **Weber** showed why interpretation remains. The honest position is disciplined method without a claim of perfect proof.

Facts & figures

Comtean positivism

The programme that society can be studied by the methods of systematic observation.

Falsifiability

Popper's rule that a scientific claim must be open to being shown false.

Verstehen

Weber's interpretative understanding of intended meaning.

Hawthorne effect

Change in behaviour caused by the fact of being studied.

Rampura

Srinivas's Mysore village study, later restudied, showing both method and revision.

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