Types of Research (RECAP!)

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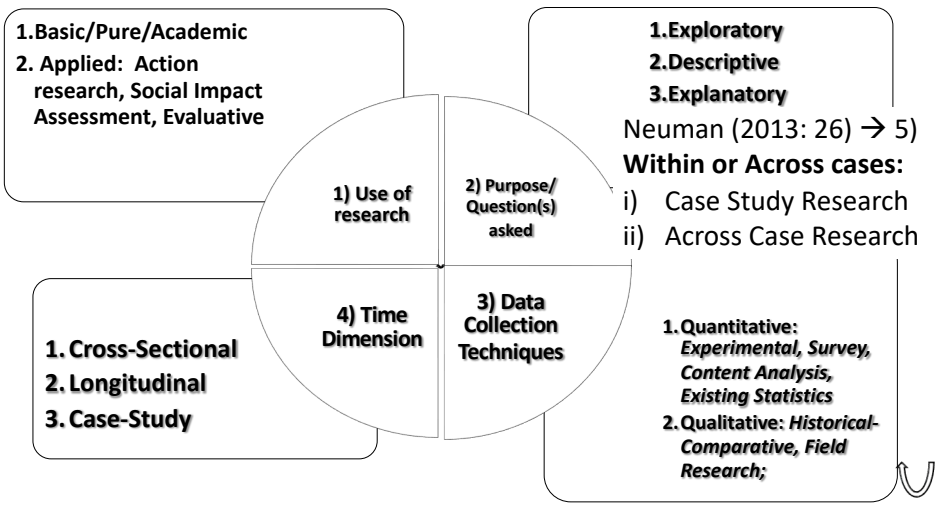
Types/Dimensions of S. Research in a nutshell



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Types/Dimensions of Research

1. Based on the Use of Research

1.1 - Pure/Basic/Academic Research

1.2 - Applied Research

1.2.1 Action

1.2.2 Social Impact Assessment

1.2.3 Evaluative

- ***Formative Evaluation***
- ***Summative Evaluation***

1.1 Pure/Basic Research

- Provides a foundation for knowledge and understanding that are to many policy areas, problems, or areas of study. E.g.,
  - What is crime? What is deviance? Why do they occur? What is violence? What is terrorism? Etc. etc.
  - Don't help police officers in controlling crime/deviance but advances in it (i.e., theories) affect laws, policies which ultimately help police departments.
- It is the source of most new scientific ideas about the world.
- It can be exploratory, descriptive, or explanatory.

1.2 Applied Research

- solves specific **policy problems** or **help practitioners** accomplish tasks.
- People employed by business, government agencies, social service agencies (e.g., NGOs), health organizations, and educational institutions conduct applied research.
- Theory is less central to them than seeking a solution.
  - E.g., ***Will students learn more actively and seek high-level skills if they are offered money (reward) for, e.g., reading before coming to classes?***
- Applied research is frequently descriptive research, and its main strength is its immediate practical use.
- The consumers of applied research findings are practitioners such as project managers, police officers, teachers, probation officers, or decision makers such as managers, committees, and officials.

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1.2 Applied Research

- Applied researchers have an obligation to translate findings from scientific technical language into the language of decision makers or practitioners.
- Because applied research has immediate implications or involves controversial issues, it may generate conflict.
  - E.g., a UN/independent report about the use of ”speed money” in Peshawar BRT might generate conflict/controversy for PTI, bureaucrats etc.

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1.2.1 Action Research

- *It is applied research that treats **knowledge as a form of power and abolishes the line between research and social action.***
- those who are being studied participate in the search process; research incorporates ordinary or popular knowledge;
  - focuses on **power** with a goal of **empowerment**;
  - seeks to **raise consciousness**;
  - Is tied directly to **political action** (i.e., explicitly political, not value neutral).
- Action researchers assume that ordinary people can become aware of conditions and learn to take actions that can bring about improvement.

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1.2.1 Action Research (Participatory Action Research [PAR])

- *PAR is a sub-type of Action research "in which the research participants actively help design and conduct the research study. It emphasizes democratizing knowledge-creation and engaging in collective action, and it assumes that political knowledge emerges from participating in research."*
- Characterised by:
  - Joint ownership of the findings.
  - Trained research working as collaborator or consultant.

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1.2.2 Social Impact Assessment (SIA)

- Could be part of **Environmental Impact Assessment (EIA)** or independently taken to estimate the likely consequences of a **planned change**.
  - To plan for and making choices among alternative policies – e.g., to estimate changes in housing and markets if BRT is to be built.
- **Social Conditions,** e.g., friends that children are likely to make based on play areas, crime rates
- **Economic impact,** e.g., changes in income levels, business failure rate
- **Demographic consequences,** e.g., changes in the structure [old vs young], movement into or out of an area.
- **Environment, e.g.,** changes in air quality or noise level.
- **Health outcomes,** e.g., changes in occurrence of disease or presence of harmful substances.
- **Psychological wellbeing**, e.g., changes in stress, fear, or self-esteem.

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1.2.2 Social Impact Assessment (SIA)

- SIA not frequently undertaken:
  - Usually done *before* implementation of a project.
  - Most policy-makers won't bother about social impact (e.g., BRT) – out of political/economic interests.
  - SIA requires time + money – thus, slowing decision-making process
  - Distrust of "expert" advice.

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1.2.3 Evaluative Research

- Evaluation research measures the effectiveness of a program, policy, or way of doing something. E.g.,
  - Does teaching through lectures improve students' analytical abilities or communication skills?
- It asks, **"Did it Work?"**.
  - Frequently descriptive but can be exploratory or explanatory.
- use several different research techniques (e.g. Survey, Field).
- Subtypes: **(1)** ***Formative Evaluation*** (i.e., while the programme/project is running) & **(2)** ***Summative Evaluation*** (at the end of the programme/project)

SIA & Evaluative Research: Needs Assessment

- ***Needs assessment*** & ***Costs benefit analysis*** often used in SIA & evaluation research.
- **NEEDS ASSESSMENT**
  - collecting data to (1) determine major needs and (2) their severity. Usually, a preliminary step before a government agency or charity (e.g., NGOs' PRA!) strategy to help people.
- Dilemmas/Difficulties:
  - Which group to target for the assessment?
  - People may not express a need in a way that links it directly to policies or long-term solutions.
  - Multiple needs of the people.
  - May generate political controversy or suggest solutions beyond local control
  - if locally felt needs are caused by major international relations, decisions made in distant corporate headquarters, or changes in the global economy, a needs assessment may be only a temporary Solution.

SIA & Evaluative Research: Cost-Benefit Analysis (CBA)

- Developed by Economists, CBA is based on the idea that everything has a monetary value. Thus
  - We estimate the (1) **future costs and (2) benefits** of one or several proposed actions and give them **monetary values**.
- First, identify all the consequences of a proposed action.
- Second, assign each consequence a monetary value.
  - consequences = intangibles, e.g., low crime rates, political freedom, scenic beauty etc.
  - Often, the researcher assigns a probability or likelihood to the occurrence of various consequences.
- next, policymakers or others identify negative consequences (Costs) and positive outcomes (Benefits).
- Finally, Costs are compared to benefits, and policy makers decide whether they balance.

CBA (cont'd...)

- TWO ways to assign **monetary values**.
- ***Contingency evaluation*** asks people how much something is worth to them.
  - E.g., to estimate to cost of air pollution (due to BRT?) that has health consequences for the average person → ask people:
    - how many days in a year could you go ill (cough, stress etc.) due to BRT's noise/air pollution?
    - how much a day's off cost you (due to coughing, stress) in terms of health expenses + missing labour/work?
      - e.g., PKR. 100 (for health) + PKR. 1000 (for loss of wages due to illness);
        - For a Population of 10,000 living along BRT: 10,000 * 11,00 = 11,000,000 (i.e., PKR. 11 million)
- BUT,
  - People rarely give accurate estimates and different people may assign very different values: e.g., for impoverished person, coughing/stess + missing work = 1100; for wealthy person = 10,000.

CBA Cont'd...

- ***Actual Cost Evaluation*** estimates, e.g., the **actual health impact** and then add up medical bills and costs for employers to get replacement workers. E.g.,
  - If, medical treatment for average worker in a company/business in Peshawar = PKR. 500/person &
  - If, replacement worker (for the day when actual worker missed the job) = PKR. 1500,
  - THEN, the cost of treating 10,000 people each year and hiring 5,000 replacement workers for a day would be:
  - 500*10,000 people = 5,000,000 + PKR. 1500*5,000 workers = 7,500,000, i.e., 12,500,000 (PKR. 12.5 Million)
- This ignores pain and suffering, inconvenience and indirect costs (e.g., a parent stays home with a sick child, a child is unable to play sports because of Asthma).

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Dimensions/Types of Research

2. On the basis of Purpose of the Study

- **Exploration/Exploratory**
- **Descriptive**
- **Explanatory**

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2.1 Exploration/Exploratory

- Become familiar with the basic facts, people, and concerns involved.
- Develop a well grounded mental picture of what is occurring.
- Generate many ideas and develop tentative theories and conjectures.
- Determine the feasibility of doing additional research
- Formulate questions and refined issues for more systematic inquiry for future researchers.
- Develop techniques and a sense of direction for future research.

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2.2 Description/Descriptive

- Provide an accurate profile of a group;
- Describe a process, mechanism, or relationship;
- Give a verbal or numerical picture (e.g. Percentages.)
- Present basic background information or a context;
- create a set of categories or classify types;
- clarify a sequence, set of stages, or steps;
- Document information that contradicts prior beliefs about a subject;
- Find information to stimulate new explanations.

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2.3 Explanation/Exploratory

- Determine the accuracy of a principle or theory;
- Find out which competing explanation is better;
- Advance knowledge about an underlying process;
- Link different issues or topics under a common general statement;
- Build and elaborate a theory so it becomes more complete;
- Extend a theory or principle into new areas or issues;
- Provide evidence to support or refute an explanation or prediction.

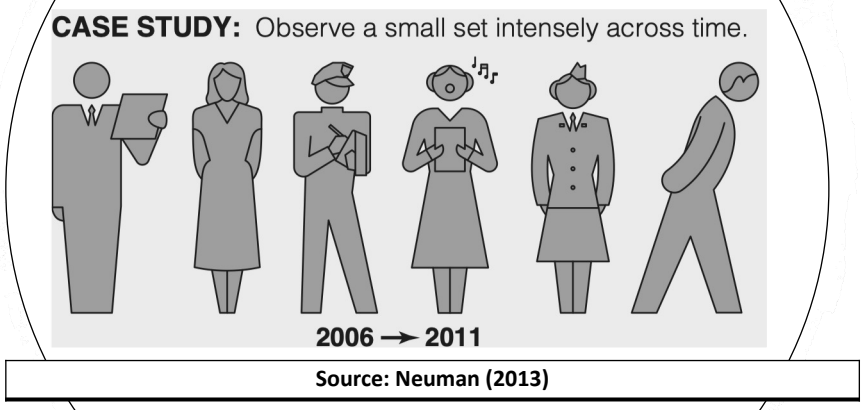
Types of Research based on

3. Type of Case(s) Under study

- **Within Case Research**
- **Across Case Research**

3.1 Case Study Research

- A Case could be individual, groups of individuals (families, peer-groups, professional groups), organisations (e.g., UoP), movements (e.g., PTM), events (Corona Virus), Geographical Units (Peshawar, KP, Pakistan, South Asia, etc.)
  - Examines many features of a few cases.
- Could be at a single point in time or long duration.
- Could be quantitative as well as qualitative but mostly QUALITATIVE!
- Case study aims for **in-depth understanding**, by studying small-scale individual interaction, issues etc. to link them to the macro social structure.



Source: Neuman (2013)

3.2 Across Case Research

- Most quantitative research studies gather information from a large number of cases (30 to 3,000) and focus on **a few of features of the cases**.
- Rather than carry out a detailed investigation of each case, across-case research compares selected features across numerous cases.
- treats each case as the carrier of the feature of interest.

4. Time-Dimension/Research types on the basis of TIME

4.1 Cross-Sectional Research

- It's a research ***"that examines information on many cases at one point in time"***.
- Cross-sectional research can be exploratory, descriptive, or explanatory, but it is most consistent with a descriptive approach.
  - Deciding whether a study is cross-sectional or longitudinal is not always simple. It is more than simply a matter of length of time!

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Source: Neuman (2013)

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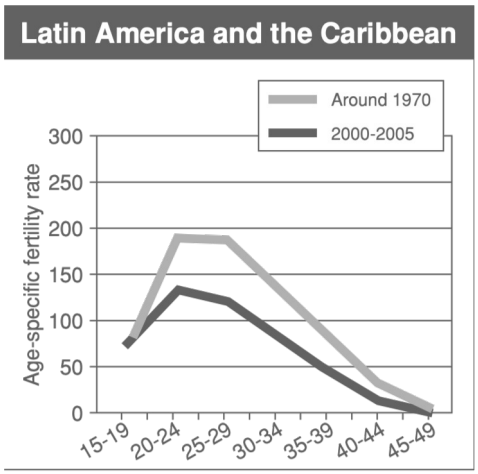
4.2 LONGITUDINAL RESEARCH

- ***Any research that examines information from many units or cases across more than one point in time .***
- Three sub-types, viz.,
  - **4.2.1: TIME-SERIES RESEARCH:**
  - **4.2.2: PANEL STUDY**
  - **4.2.3: Cohort**

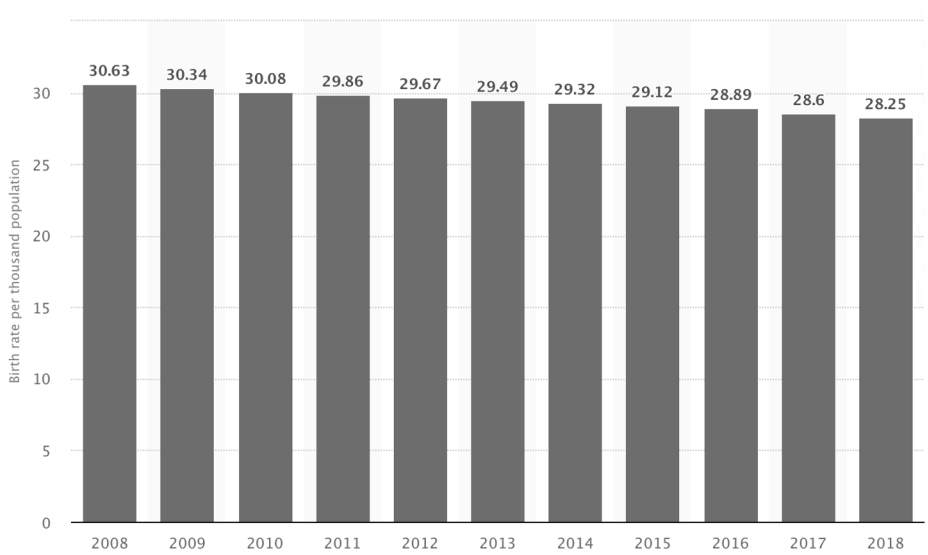
4.2 LONGITUDINAL RESEARCH

- **4.2.1: TIME-SERIES RESEARCH:**
  - is a ***Longitudinal research in which information can be about different cases or people in each of several time periods***.
- enables researchers to observe stability or change in the features of the units or can track conditions over time



- Source: Poston & Bouvier (2010: 45)

Pakistan: Birth rate from 2008 to 2018 (per 1,000 inhabitants):
https://www.statista.com/statistics/977099/crude-birth-rate-in-pakistan/



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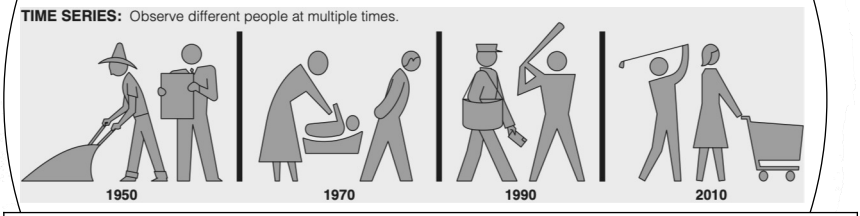

Source: Neuman (2013)

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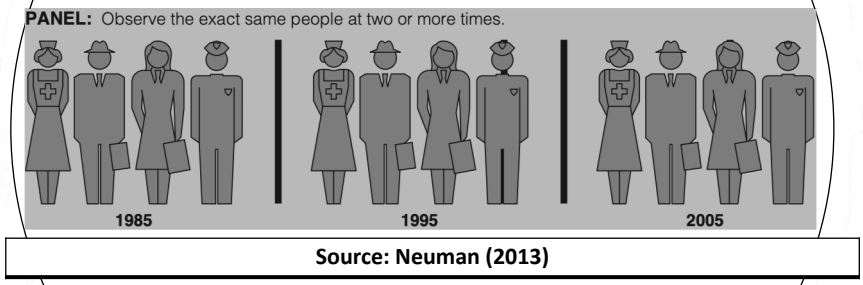
4.2 LONGITUDINAL RESEARCH

- **4.2.2: PANEL STUDY**
  - ***A Longitudinal research in which information is about the identical cases or people in each of several time periods***.
- researchers observe/gather data on **exactly the same people, group, or organization** across time points.
- More difficult to conduct than time-series research:
  - Time-consuming + costly
  - Tracking people overtime (monthly, yearly, or some other prefixed period) is difficult; some may die; others may have relocated.
- Consult BOX 9 in Neuman (2014, p. 47)!



Source: Neuman (2013)

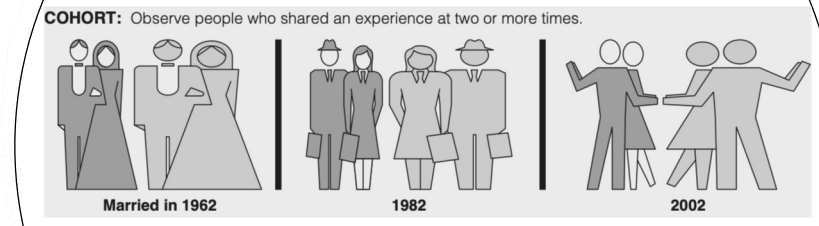
4.2 LONGITUDINAL RESEARCH

4.2.3: COHORT STUDY

- ***Longitudinal research that traces information about a category of cases or people who shared a common experience at one time period across subsequent time periods.***
- Similar to the panel study, but rather than observing the exact same people, it studies a category of people who share a similar life experience in a specified period
- A "cohort," is a defined category. Commonly used cohorts are:
  - all people born in the same year (called *birth cohorts*),
  - all people hired at the same time,
  - all people who retire in a 1- or 2-year period, and
  - all people who graduate in a given year.

4.2 LONGITUDINAL RESEARCH

- Unlike panel studies, a cohort study doesn't locate the exact same people for each year, but identify only those who experienced a common life event. E.g.,
- A cohort study could compare three marriage cohorts—all people married in each of three years (1970, 1990, and 2010) to see:
  - whether they differ as to the features of the marriage ceremony;
  - whether these were arranged/love-marriages;
  - Whether held in wedding halls/homes/community areas etc. etc.



Source: Neuman (2013)

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Table – Age-Specific Fertility Rates, Pakistan: 1955 – 2015

	AGE RANGE						
Year	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**
1955	112.68	273.24	314.40	272.96	201.85	111.71	33.16
1960	112.68	273.24	314.40	272.96	201.85	111.71	33.16
1965	112.68	273.24	314.40	272.96	201.85	111.71	33.16
1970	112.68	273.24	314.40	272.96	201.85	111.71	33.16
1975	109.69	273.86	315.11	273.58	202.30	111.96	33.24
1980	107.20	274.48	315.83	274.21	202.77	112.21	33.30
1985	103.59	268.53	309.30	268.35	198.63	109.55	30.84
1990	95.19	267.70	308.52	264.69	193.76	103.14	26.33
1995	80.02	260.07	303.18	254.96	179.58	90.71	23.98
2000	64.31	237.33	285.10	234.63	156.16	76.14	21.14
2005	51.12	210.23	263.18	209.32	129.20	59.74	18.60
2010	43.58	193.02	244.30	189.21	105.38	43.57	14.56
2015	**41.51**	**185.17**	**227.52**	**176.78**	**86.15**	**29.71**	9.59

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Research Types based on 5. DATA COLLECTION TECHNIQUES

1. Quantitative Research: Collecting data in numerical form
   1. Experimental Research
   2. Surveys
   3. Non-reactive research
2. Qualitative Research: Collecting data in the form of words or pictures.
   1. Field research
   2. Historical-comparative research

5.1 QUANTITATIVE RESEARCH

- **5.1 EXPERIMENTAL RESEARCH**
- *Research in which the researcher manipulates conditions for some research participants but not others and then compares group responses to see whether doing so made a difference.*
  - Uses the logic and principles of natural sciences.
  - Could be conducted in the laboratory or in real life.
  - Usually involve small no. (30-100) of people to address well-focused question.
  - Experimental research highly effective for **explaining** (the causes of something), i.e., experiments are usually explanatory in nature!

5.1 QUANTITATIVE RESEARCH

- In most experiments, a researcher divides the people being studied (about seventy people in the study) into two or more groups. The researcher then treats both groups identically except that he or she gives one group but not the other a specific condition: the "treatment."
  - Treatment Group
  - Control Group

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5.1 QUANTITATIVE RESEARCH

- **5.2 Survey Research**
- *Quantitative research in which the researcher systematically asks a large number of people (e.g., 100 - 5000) the same questions and then records their answers.*
- Uses written questionnaire or formal interview (asking exactly the same questions from the questionnaire) to collect data.
- The people studied are called **SAMPLE** (using probability sampling techniques)**,** and the data analysis from these is used to **GENERALISE about** all the people (**POPULATION**) from which the sample was taken.

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5.1 QUANTITATIVE RESEARCH

- **5.3 Non-REACTIVE RESEARCH**
- *Research methods in which people are not aware of being studied.*
- It could be
- (1) Unobtrusive observation,
- (2) existing statistical information,
- (3) content analysis,
- (4) secondary data analysis.

5.1 QUANTITATIVE RESEARCH

- **5.1.3.1: Content analysis**
- Research in which the content of a communication medium is systematically recorded and analysed.
- A technique for examining the content or information and symbols contained in written documents or other communication media (e.g., photographs, movies, song lyrics, advertisements).
- To conduct a content analysis, we identify a body of material to analyze (e.g., school textbooks, television programs, news- paper articles) and then create a system for record- ing specific aspects of its content. The system might include counting how often certain words or themes appear. After we systematically record what we find, we analyze it, often using graphs or charts.

5.1 QUANTITATIVE RESEARCH

- **5.1.3.2: (Analysing) Existing Statistics**
- *A research in which one re-examines and statistically analyses quantitative data that have been gathered by government agencies or other organizations.*
- We locate a source of previously collected information, often in the form of official government reports. We then reorganize the information in new ways to address a research question.
- Existing statistics research can be used for exploratory, descriptive, or explanatory purposes but most frequently for descriptive research.

5.2 QUALITATIVE RESEARCH

- **5.2.1 FIELD RESEARCH**
- *Qualitative research in which the re- searcher directly observes and records notes on people in a natural setting for an extended period of time*.
- Uses observations, informal/formal interviews and any other method of data collection that is suitable according to the people and topic being investigated…

5.2 QUALITATIVE RESEARCH

- **5.2.2 HISTORICAL COMPARATIVE RESEARCH**
- *Qualitative research in which the researcher examines data on events and conditions in the historical past and/or in different societies.*
- Some studies investigate aspects of social life in a past historical era in one society or in a few. Other studies examine a different culture or compare two or more cultures.
- We might focus on one historical period or several, compare one or more cultures, or mix historical periods and cultures.

5.2 QUALITATIVE RESEARCH

- Like field research, it starts with a loosely formulated question and then refine and elaborate on it during the research process.
- often uses a mix of evidence, including existing statistics, documents (e.g., books, newspapers, diaries, photographs, and maps), observations, and interviews.
- Historical- comparative research can be exploratory, descriptive, or explanatory, but it is usually descriptive.
- Mostly qualitative (BUT NOT ALWAYS! As some may use existing quantitative/statistical data)…

Recap: Quant VS Qual Research

	Qualitative	Quantitative
Observing	Participation Observation	Structured Observation
Talking to people	In-depth interviews & Focus Group Discussions (FGDs)	Surveys
Looking at 'texts' (books, films, web pages, adverts, or qualitative data …)	Discourse Analysis	Content Analysis
Using existing information/data	Comparative Historical Research	Secondary Analysis of Existing Statistical data
Other		Experiments/Quasi-experiments

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Source/Suggested Reading

•Neuman, W. L. (2013). *Social Research Methods: Qualitative and Quantitative Approaches* (7th ed.). Pearson Education Limited: Essex.

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