



Research in Clinical Psychology

What is research?

Systematic, rigorous and careful consideration of relevant facts

These can be obtained from:

Clinical experience (e.g., case studies)
Clinical trials
Searches of historical literature (e.g., systematic review of literature)
Literary work (e.g., classical authors)



Clinical psychology research: what do we want to find out?



How does clinical psychology research help us to understand distress?

What questions do clinical psychologists try to answer?

What questions do clinical psychologists try to answer?

Aetiology

Description of the causes of psychopathology

Analogue research

Research carried out on non-clinical populations

Clinical audit or evaluation research

The use of research methods to determine whether existing clinical knowledge, skills and resources are effective and are being properly used.

Research designs in clinical psychology

Correlational designs

Longitudinal studies & prospective designs

Epidemiological designs

Experimental designs

Mixed designs

Natural experiments

Single case studies

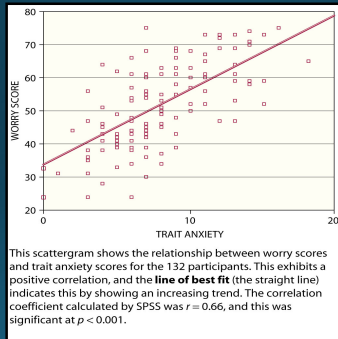
Meta-analyses and systematic reviews

Qualitative research

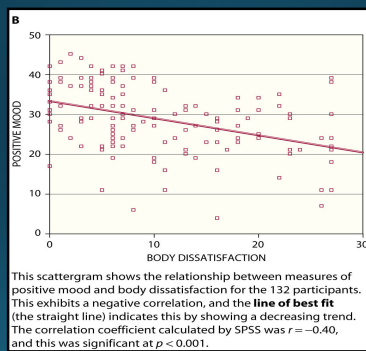
Correlational designs

- Determines relationship between two or more variables
- Positive correlation
- Negative correlation
- Scattergram
- Line of best fit
- Statistical significance

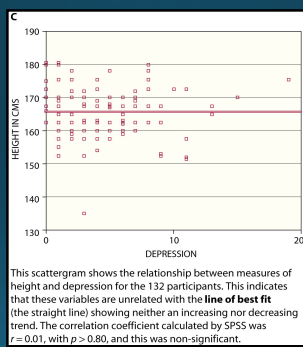
Positive correlation



Negative correlation



No significant correlation



Value of correlational studies for clinical researchers

- Help to understand which variables may be interrelated (as a first step to understanding)
- Useful in showing how individual differences and personality may relate to psychopathology
- Useful in showing whether certain experiences are related to psychopathology (*risk factors*)
- However – cannot infer causation from correlational studies

Longitudinal studies & prospective designs

- In traditional correlational designs all measures are taken at the same point in time (a *cross-sectional design*)
- Longitudinal or prospective designs take measures from the same participants at two or more different times
- Allows researchers to see if measure Y at Time 1 *predicts* changes in measure X between Time 1 and Time 2
- Enables researchers to determine whether a variable is a *risk factor* for psychopathology at some later time
- Example is the Dunedin Multidisciplinary Health & Development Study (Moffit, Caspi, Rutter & Silva, 2001)

Epidemiological studies

- Study of the frequency and distribution of disorders within a specific population
- Usually consist of large scale studies
- Provide details of *prevalence rates*
- Provide information that can be used for planning mental health care services

Prevalence rates

- Prevalence rates
 - The representation of incidence by duration of a particular disorder
- Lifetime prevalence
 - The frequency of a disorder in a lifetime
- One-month prevalence
 - The frequency of a disorder within the last month
- Point prevalence
 - The frequency of a disorder in the population at any one point in time

Experimental designs

- Basic features of the experimental method
- Example:

We may predict that if we increase negative mood, our participants will worry more, and this hypothesis can be derived from (1) an existing academic theory about worrying, (2) our observations of worrying in everyday life, (3) the existing research literature on worrying, or (4) the outcomes of other studies we have conducted on worrying.

Uses of the experiment in clinical psychology research

- Use of non-clinical populations in analogue studies
- Use of animal models in clinical psychology research
- Clinical trials
 - Placebo effect

Mixed designs



Research which uses the non-random assignment of participants to groups in an experiment



Used to see if individuals with different psychopathologies will react differently to particular variables

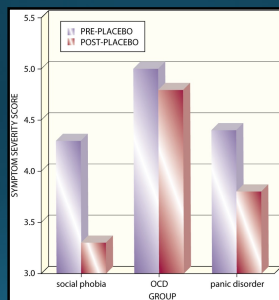


Frequently used in treatment outcome studies



However, cannot infer a direct causal relationship between the diagnostic category and the effects of the manipulation.

Example of a mixed design



Natural experiments

Nature may give us the opportunity to observe the effects on behaviour of a natural manipulation

Such events include natural disasters such as earthquakes and floods, traumatic disasters or accidents, or terrorist attacks

Examples of natural experiments

Van Griensven, Chakkraband, Thienkrua, Pengjuntr et al. (2006) studied survivors of the 2004 tsunami in southern Thailand and found that the event had caused elevated rates of symptoms of PTSD, anxiety and depression in survivors. Other studies have used naturally occurring disasters as a tool to assess whether such events increase psychopathology only in individuals with particular characteristics. For instance, Weems, Pina, Costa, Watts et al. (2007) found that PTSD symptoms in children following the devastation caused by Hurricane Katrina in the southern USA in 2005 was highest in those children who had high levels of trait anxiety prior to the disaster.

Single case studies

- Clinical researchers may study just one individual and gather information from a single case
- Types of single case studies include:
 - Case studies
 - Single-case experiments

Case studies in psychology

- In-depth investigation of an individual participant
- Used by:
 - Harlow (e.g. Phineas Gage)
 - Sigmund Freud (e.g. Little Hans)
 - Piaget's studies
 - Clinical (medical) research

Benefits of case studies

- Useful when there are only a few instances of a psychopathology available for study
- Can provide new insights into existing psychopathologies
- Can provide detailed information that may *disprove* existing theories

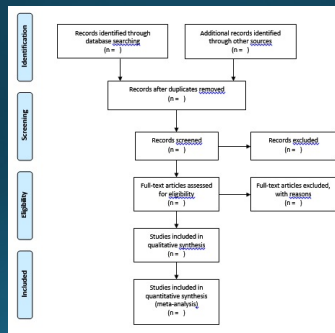
Limitations of case studies

- Lack the objectivity and control found with quantitative methods
- Case studies are usually low on *external validity* (the extent to which the results of a study can be extrapolated to other situations)
- Because of the uncontrolled way in which case studies are collected, they do not provide useful evidence that can differentially support existing theories – **but useful for developing hypotheses.**

Meta-analyses & systematic reviews

- Provides an objective way of reviewing and summarizing the outcomes of a range of studies investigating the same phenomenon.
- Attempts to detect trends across studies that have used different procedures, participants and forms of measurement.
- Compares studies by comparing *effect sizes* across these studies.

PRISMA (2009)



Qualitative methods

- The raw material for qualitative studies is ordinary language rather than mathematical analysis.
- Uses the participant's own descriptions of themselves, their experiences, their feelings and thoughts.
- Enables researchers to gain an insight into the full experience of psychopathology.

Advantages of qualitative methods

- Some aspects of psychopathology are difficult to express numerically (e.g. the phenomenology of depression).
- Permit intensive and in-depth study of individuals and small groups.
- Researchers may discover interesting things about a psychopathology that they were not originally looking for.
- Provide useful information at the outset of a research programme.

Journal	% Findings Replicated
Journal of Personality and Social Psychology: Social	23
Journal of Experimental Psychology: Learning, Memory, and Cognition	48
Psychological Science, social articles	29
Psychological Science, cognitive articles	53
Overall	36

Table 1: The Reproducibility of Psychological Science






Estimating the reproducibility of psychological science

Open Science Collaboration^{1,2}
 1. Harvard University and others
 2. Open Science Collaboration
 2015. 521. e323. doi:10.1126/science.1261913

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