

# **Methoden en technieken van seksonderzoek**

# Methoden en technieken van seksonderzoek

## 1. Begintermen

- Het opo ‘methoden en technieken van seksonderzoek veronderstelt dat een student:
  - in het algemeen inzicht heeft in de relatie tussen theorie en onderzoek;
  - een basiskennis heeft over onderzoeksmethoden in het algemeen; en
  - een inleiding heeft gehad in het veld van de seksuologie als wetenschap

## 2. Doelstellingen

- Studenten krijgen een overzicht van de meest gangbare perspectieven van waaruit seksonderzoek wordt gedaan
- Studenten krijgen inzicht in de meest gebruikte onderzoeksmethoden en - technieken die voor seksonderzoek worden gebruikt
- Studenten zijn op de hoogte van de relatie tussen theorie en onderzoek in het domein van de seksuologie als wetenschap
- Studenten komen in aanraking met de verschillende stappen van wetenschappelijk onderzoek
- Studenten maken kennis met zowel de kwantitatieve als kwalitatieve benadering van seksonderzoek
- Studenten verlenen medewerking aan onderzoek dat wordt uitgevoerd aan het IFSW

## 3. Leermiddelen

- Slides op TOLEDO
- Teksten op TOLEDO
  - hoofdstukken uit boeken
    - ✓ Wiederman, M.W. & Whitley, B.E. (2002). Handbook for conducting research on human sexuality. LEA/Mahwah, New Jersey, 532 pp.
  - artikels uit tijdschriften
- opdracht voor het deel van prof. Rober

#### 4. **Evaluatie**

- Vorm
  - Kwantitatief deel
    - ✓ deelname aan onderzoek
    - ✓ mondeling examen
    - ✓ open boek
  - Kwalitatief deel
    - ✓ Presentatie
- Inhoud
  - Doel = kennis over het proces van seksonderzoek evalueren
  - Toepassing
    - ✓ Je evalueert de methodensectie van een artikel
    - ✓ Je schrijft een eigen onderzoeksvoorstel en dat verdedig je

#### 5. **Verantwoording**

- ‘Onderzoek leren begrijpen en doen’ behoort tot de doelstellingen van academisch onderwijs
- De meeste leerstof en inhoud van de opleiding is gebaseerd op wetenschappelijk onderzoek: om die kennis naar waarde te kunnen schatten, is kennis ivm onderzoeksmethoden vereist
- Om de resultaten van wetenschappelijk onderzoek (in de populaire pers, wetenschappelijke tijdschriften, voordrachten, presentaties) (beter) te kunnen lezen en interpreteren
- Masterproef

#### 6. **Wetenschappelijk onderzoek**

- Welke stappen moet je in acht nemen bij het uitvoeren van wetenschappelijk onderzoek ?
  - Review van de wetenschappelijke literatuur - niche
  - Formuleer een onderzoekshypothese
  - Selecteer een onderzoeksvraag
  - Selecteer een onderzoeksmethode – retrospectief versus prospectief
  - Selecteer een steekproef
  - Data verzameling
  - Data analyse – belang van statistiek
  - Interpretatie van de resultaten – open minded; los van de eigen hypothesen
  - (Mee)delen van de resultaten - proces van peer review

## 7. **Ideeën**

- Bedenk bij de volgende onderwerpen een bepaalde hypothese + concrete onderzoeksvraag over de samenhang tussen beide elementen
  - Jongeren en pornografie
  - Alcohol en seksuele variatie
  - Ruggenmergletsel en seksualiteit
- Inzicht geven in proces van peer review
  - Een artikel dat ik kreeg voor review bespreken met de groep
- Artikels laten lezen voor specifieke aspecten

## 8. **Oefening**

- Kies uit de matrix een interessant onderwerp dat je zou willen bestuderen in een onderzoeksvorstel
- Probeer – op basis van wat je weet over wetenschappelijk onderzoek in het algemeen – een specifieke onderzoeksvraag te formuleren
- In kader van een project in Ecuador werd er gevraagd om een theoretische analyse te maken van het volgende probleem:
  - “There are many problems in the field of reproduction,
  - i.c. rates of early pregnancies, sexually transmitted disease,
  - abortion in high school teenagers are increasing”.
- Formuleer een hypothese / probleemanalyse voor dit probleem ?
- Geef een ‘operationele definitie’ voor de volgende variabelen
  - Seksuele opwinding voor mannen, kind seksualiteit, seksueel verlangen, geslachtsgemeenschap
  - Seksuele opwinding voor vrouwen, seksuele oriëntatie, penislengte, seksueel verlangen
  - Seksueel verlangen, seksuele aversie, frequentie van seksuele activiteit
  - Promiscue seksueel gedrag, seksueel verlangen, erectie

# Examination

- 'Open book' examination
  - Teksten
    - ✓ boek seksuologie - hoofdstuk 3
    - ✓ wagstaf - research in human sexuality.pdf
    - ✓ chapter 1 - reliability and validity of measurement.pdf
    - ✓ chapter 2 - sampling considerations.pdf
    - ✓ chapter 3 - behavioural observation.pdf
    - ✓ chapter 4 - psychophysiological measurement of sexual arousal.pdf
    - ✓ chapter 11 - group comparison -1.pdf
  - Slides

## 1. Examination

- 2 questions
  - First, you describe an own research proposal that we will discuss critically:
    - ✓ 2 to 3 pages;
    - ✓ with special attention for
      - \* Kind or type of research
      - \* R-question(s)
      - \* Methodology
      - \* Sampling method
    - ✓ bring 2 hard copies (printed) of your paper to the examination
  - Second, you receive the research and methods section of an article and the question is do discuss its qualities and weaknesses
    - ✓ Use the same format as for the paper:
    - ✓ What kind or type of research is this ?
    - ✓ What is/are the R-question(s) that are addressed in this study?
    - ✓ What is the methodology used ?
    - ✓ Which sampling method is being used ?
    - ✓ Other remarks ?

# Inleiding

## 1. Seksuologie

- Seksuologie is de wetenschappelijke studie van de menselijke seksualiteit in als zijn variaties en expressievormen

### a) Wetenschap

- Het standaardbeeld van de wetenschap bestaat uit drie elementen:
  - De hypothetische-deductieve methode → geeft de logica aan van de activiteiten in de procedure.
    - ✓ Is een methode van wetenschappelijk onderzoek die bestaat uit een herhalende cyclus van hypothesenorming, deductie van voorspellingen uit deze hypothesen, de empirische toetsing van deze voorspellingen en waar mogelijk de herziening van de hypothesen.
  - de procedure (empirische cyclus) → welke dingen moeten worden gedaan.
    - ✓ Bestaat uit 5 fasen: observatie, inductie, deductie, toetsing en evaluatie.
    - ✓ De meest gevolgde procedure om tegenwoordig tot wetenschappelijke kennis te komen is de zogeheten empirische cyclus. Zie hiervoor de wetenschappelijke methode. In deze cyclus komt het principe van inductie in meer of mindere mate voor. Wanneer er op basis van een bepaald aantal waarnemingen een theorie/hypothese wordt gevormd, is dit op basis van inductie. Aan de hand van deductief redeneren kan men vervolgens tot een voorspelling komen. Door het uitvoeren van experimenten wordt deze voorspelling getoetst. De resultaten die uit de bus komen moeten worden geëvalueerd, dit kan middels het verificatieprincipe (inductie) en het falsificatieprincipe (deductie).
  - het verklaringsmodel → logische verklaring van wat bereikt moet worden.
    - ✓ De kern van het verklaringsmodel bestaat uit twee principes: de symmetrie-these en de covering-law-these.

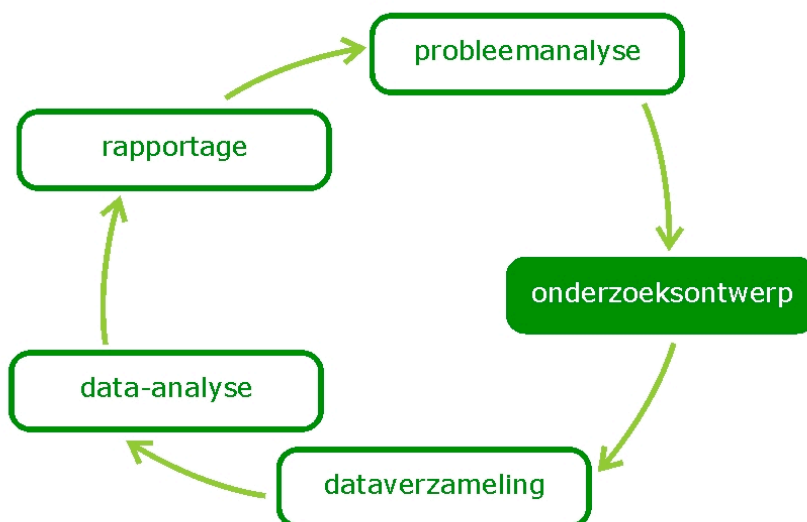
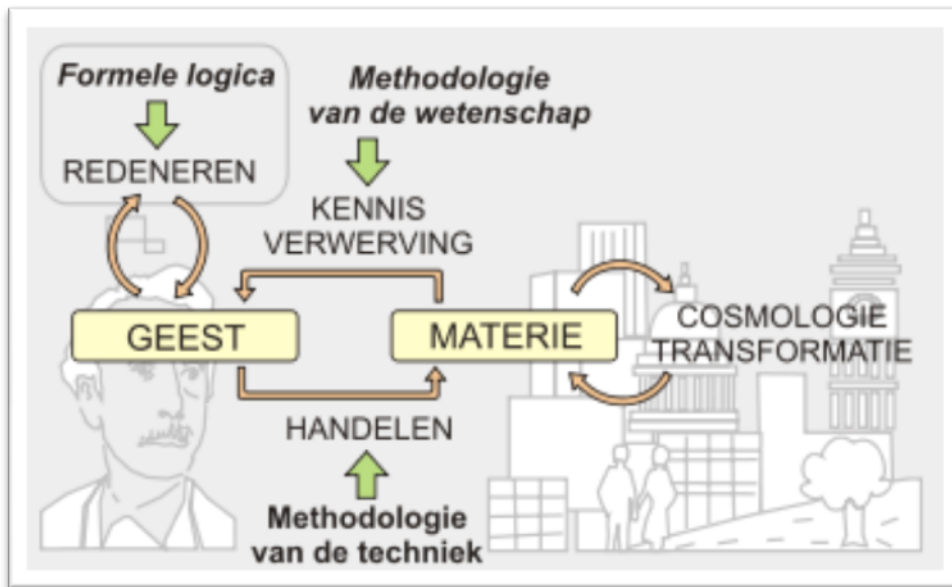
b) Wetenschappelijk onderzoek

- Theorie
  - Een beeld van de werkelijkheid dat een noodzakelijke en voldoende verklaring biedt voor een reeks waarnemingen of verschijnselen.  
Een theorie doorloopt in haar ontstaan het volgende proces (empirische cyclus):  
waarneming - hypothese - toetsbare voorspelling - experiment/waarneming - verificatie/falsificatie - theorie
- Deductie
  - Het afleiden van het bijzondere uit het algemene. In de middeleeuwen gebruikelijke wijze van redeneren.
- Inductie
  - Het afleiden van het algemene uit het bijzondere.
  - Wetenschappelijke methode sinds de renaissance.

2. Unieke aard van seksonderzoek

- Het verband tussen theorie en onderzoek in de seksuologie
- Types van onderzoek
- Methoden
  - Betrouwbaarheid en validiteit
  - Zelfrapportage
  - Observatie
  - Psycho-fysiologisch onderzoek
  - Focus groep discussies
  - Dagboeken
  - Tekstanalyse
- Steekproeftrekking
- Groepsvergelijking
- Interpretatie van onderzoeksresultaten

### 3. Methode van wetenschappelijk onderzoek



- Bacon's "method of discovery"
  - Francis Bacon (1561-1626) ontwikkelde een 4-stappenplan dat in zijn tijd vrij vernieuwend was. Hij stelde volgende methode voor om tot ontdekkingen te komen:
  - Observatie :
    - ✓ Bij deze stap observeert de wetenschapper een groep fenomenen en beschrijft deze. Zijn gehanteerde criteria om dit te doen bestaat uit objectiviteit en statistische verslaggeving.



- Formulering :
  - ✓ De wetenschapper formuleert een hypothese. Tijdens de formulering probeert de wetenschapper een link te leggen met bestaande theorieën en poogt hij zijn hypothese zo simpel mogelijk te houden maar formeel weer te geven.
- Predictie :
  - ✓ Op basis van de hypothese maakt de wetenschapper voorspellingen. Hierbij probeert hij accurate voorspellingen te maken om deze vervolgens objectief te testen.
- Experimenteren :
  - ✓ Tenslotte test de wetenschapper zijn voorspellingen. Doel daarbij is om bepaalde voorspellingen uit te sluiten en andere te bevestigen. Op basis van de bevestigde voorspellingen, maakt hij nieuwe om uiteindelijk tot een sluitend geheel te komen. Daartoe worden experimenten uitgevoerd die zodanig worden beschreven dat anderen ze kunnen herhalen en daarbij wordt een bias – zoveel mogelijk – vermeden .

#### 4. **Metatheorie – conceptualisatie van wetenschappelijk onderzoek**

##### a) Metatheorie

- Kritische reflectie op het werk dat in een bepaald wetenschappelijk gebied werd verricht met als doel een inventaris van het veld te maken
  - beoordeling van de onderzoeksmethoden en theoretische modellen
- Theorie over de aard van het onderzoek
  - identificeren van belangrijke scholen/stromingen of perspectieven
  - kritische evaluatie van de betekenis en structuur van eerdere en hedendaagse theoretische verklaringen
  - onderzoeken van theoretische trends
  - beoordeling van de regels op grond waarvan er in het wetenschappelijke veld theorie worden geconstrueerd

b) *Belang*

- a) helpt om te reflecteren over de betekenis van theorie in verschillende contexten
  - theorie in gesprek
  - theorie in wetenschap
- b) helpt om verschillende types van theorie te identificeren en te evalueren
  - variatie van het type of onderzoek bijv. causaal onderzoek
  - variatie van benaderingen om een theorie te construeren bijv. van theorie naar onderzoek, van onderzoek naar theorie

c) *Positivistische benadering*

- Wetenschappelijke theorie = een logische intergerelateerde serie van veronderstellingen die worden gebruikt om empirisch betekenisvolle relaties tussen een set van concepten te verduidelijken
- 4 dimensies
  - Wetenschap is gebaseerd op observatie en experimenten met als doel om specifieke fenomenen te verklaren en te voorspellen (~ empirische test/cyclus)
  - Theorie is gebouwd rond 'concepten'
    - ✓ Concepten zijn abstracte, symbolische representaties van een idee of een fenomeen
    - ✓ Veronderstelt een klare definitie, overeenstemming over de betekenis van de definitie, potentieel om te meten
  - Gebruik van veronderstellingen die een statement of een specificatie over bepaalde associaties tussen concepten
    - ✓ Gebruik van assumpties die een set van algemene menselijke karakteristieken (bijv. mensen zijn sociale wezen) eerder dan de relatie tussen deze concepten beschrijven
  - Theorieën worden gebruikt om 'specifieke' fenomenen te beschrijven
    - ✓ Gebruik een passende set van concepten om een specifiek fenomeen te beschrijven Bijv. 'social scripting' theorie met de focus op sociale interactie - om de sociale invloeden op seksualiteit in verschillende situaties te beschrijven

d) Kritische blik op de positivistische benadering

- Positivism is gebaseerd op 3 assumpties
  - Logisch empirisme, rationaliteit en objectiviteit
- Post-positivistische of post-moderne dagen deze premissen
  - er is geen waardenvrij, universeel, objectief en rationeel onderzoek
  - er kunnen geen algemeen geldende menselijke theorieën worden geconstrueerd
  - benadrukken het ‘contextuele proces’ van wetenschap en de veelheid van meningen die gerelateerd zijn aan de menselijke ervaring
    - ✓ dit geldt voor de populaties en fenomenen die worden bestudeerd alsook voor de professionele activiteiten van de seksonderzoekers
  - De empirische basis van wetenschap staat minder onder druk – de empirische verzameling en analyse van data wordt niet verworpen
- “Essentialisme” versus “social-constructivisme”
  - Onverenigbaar of de basis van een nieuwe synthese ?

e) Exercise

- Give a operational definition for the next variables
  - Sexual arousal for men, child sexuality, sexual desire, sexual intercourse
  - Sexual arousal for women, sexual orientation, length of penis, sexual desire
  - Sexual desire, sexual aversion, frequency of sexual intercourse
  - Promiscuous sexual behaviour, sexual desire, erection

## 5. Theory and research

a) Relatie tussen theorie en onderzoek

- De seksuologie heeft nog niet echt goede theorieën , eerder ‘conceptuele kaders’
- Conceptueel kader =
  - Een voorloper van een theorie
  - Een woordenschat van gedeelde definities van concepten
  - Een aantal definities van concepten waarover een consensus bestaat, maar waarover nog geen systematisch onderzoek bestaat over hoe die concepten zich tot elkaar verhouden
    - ✓ e.g bio-psycho-sociaal model

b) Onderzoek en theorie over seksualiteit

- Gebrek aan een verband tussen onderzoek en theorievorming in de seksuologie
- Theorievorming staat in zijn kinderschoenen
  - Weinig onderzoek is hypothesetoetsend
  - Er zijn slechts weinig empirisch geteste theorieën gebaseerd op precieze concepten
- Er is een gebrek aan meta-theoretische reflectie in de seksuologie
  - Seksonderzoek is veeleer beschrijvend dan theoretisch/hypothese toetsend
  - In tijdschriften is er een tendens om data te publiceren die descriptief en vaak a-theoretisch zijn
  - Het veld zou eraan winnen indien er een grotere integratie zou zijn van theorie en methodologie

6. **Types of research: Welke methode voor welke theorie**

- Essentialistische theorie
  - Assumptie
    - ✓ Fenomenen zijn natuurlijk, onvermijdelijk, universeel en biologisch gedreven
      - \* e.g. biologische theorieën over de ontwikkeling van homoseksualiteit -> tweelingen-onderzoek, genetisch en hersenonderzoek
  - Exploratief onderzoek om hypothesen te kunnen formuleren
  - Experimenteel onderzoek om hypothesen te testen
    - ✓ Vragenlijsten
    - ✓ Interviews
    - ✓ Labo onderzoek
      - \* (bio)chemisch, farmacologisch, psychologisch en psychofysiologisch labo-onderzoek
- Sociaal-constructionistische theorie
  - Assumptie
    - ✓ Werkelijkheid kan niet objectief gekend zijn
    - ✓ Werkelijkheid kan alleen subjectief ervaren worden, maar die ervaringen zijn niet chaotisch maar net geordend
    - ✓ Die ervaringen worden beïnvloed door de sociale omgeving
    - ✓ Taal is belangrijk om het ons toe laat om onze ervaringen te ordenen en deze te delen met anderen

- Kwalitatieve methoden
  - ✓ Interview, self-rapportage, inhoudsanalyse

## 7. **Historical remarks on sex research**

- Case-studies
- Face-to-face interviews
- Questionnaires
  - in community samples
  - in sex clinics
  - in other clinics
- Observation
  - self-observation
  - observation by others
- Laboratory research (technical or experimental)
- Biochemical and fundamental research

## 8. **Types of research**

- Clinical research
- Observational research
- Experimental research
  - e.g. psycho-physiological lab research
- Selection bias in sex research
  - See chapter 5 : ‘sampling considerations’
- Ethical, political and societal aspects of sex research
- Cultural aspects of sex research

### a) *Clinical research*

- Research on or about clinical sexual health care
- Target population: subjects with a sexual problem
- Aims:
  - To gain new insight or knowledge
    - ✓ description of relevant phenomena
    - ✓ systematic exploration of the research subject

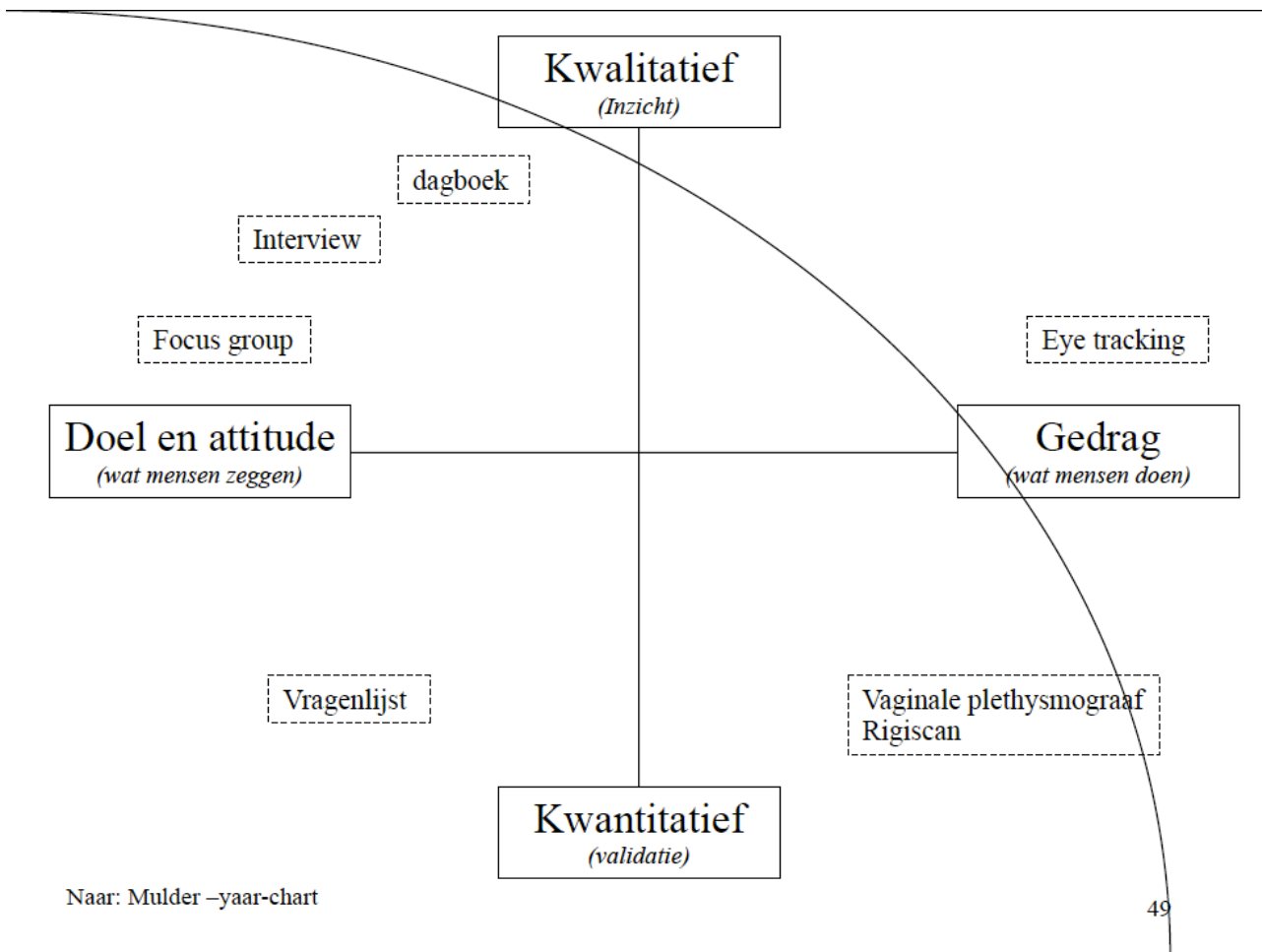
- ✓ hypothesis formation or – testing
  - ✓ applied research
- Apply existing knowledge in specific situations or specific groups
  - ✓ clinical diagnosis
- Types of clinical research
  - Descriptive studies
    - ✓ description of sexual phenomena that are relevant for the construction of a theory
      - \* Ideographic description
        - ▶ description of unique, non-replicable occurrences
        - ▶ e.g. case study
      - \* Nomothetic description
        - ▶ the effort to derive generally valid rules in a research field
        - ▶ e.g. descriptive research can be the first step
    - ✓ necessary first step for further theory building
      - \* e.g. literature review, PSAD, ...
    - ✓ explains “what there is” in terms of:
      - \* manifestation / occurrence / presentation, experience, frequency or prevalence of occurrence (in the life cycle), prevalence in the population, ...
    - ✓ can take the form of
      - \* case reports or description of a bigger group using both quantitative and qualitative research methods
      - \* e.g. parts of Masters & Johnson’s research on the human sexual response cycle
  - Explorative studies
    - ✓ The study of facts or associations in the field is lead by expectancies or knowledge based on case reports and other descriptive research
    - ✓ Aim
      - \* to help developing testable hypotheses c.q. theoretical models
    - ✓ “fishing experiments”
      - \* gather a big amount of data in the hope to find something that makes sense
    - ✓ Important that findings from explorative research are replicated in further studies based on falsifiable hypotheses and good research methodology

- ✓ epidemiological studies are often explorative
  - \* prevalence studies = occurrence in a certain period of time
  - \* incidence studies = new cases in a certain period of time
- ✓ e.g. Boxmeer study (Meuleman, 2001)
  - \* prevalence of ED in men aged between 40 and 79 years old and its association with distress and help seeking
    - ▶ prevalence increased with age, but distress and help seeking decreased with age
- ✓ Observational method is mostly used
  - \* Observations are performed without interventions or manipulations of variables
  - \* Longitudinal studies
    - ▶ the same subjects are followed over a long(er) period of time while the same variables are repeatedly measured
- Quasi-experimental studies
  - ✓ Problems with randomisation
    - \* Random assignment of subjects to treatment or control is not always possible due to practical and/or ethical considerations
      - ▶ Control = no treatment or “waiting list”-procedure
      - ▶ Subjects sometimes need a specific treatment
  - ✓ all other circumstances are kept equal
    - \* Test variables that are thought to be relevant on before hand: if there are no differences => effects are possibly more due to the intervention
- Experimental clinical studies
  - ✓ inspired by evidence based care ‘movement’ that promotes clinical care based on scientific research
  - ✓ In a clinical sample : study of the effect of a manipulation or intervention of an independent variable on a dependent variable after randomisation with or without the use of a control group
    - \* repeated measures or within group comparisons
      - ▶ each subject is its own control
      - ▶ pre-test and post-test measuring

- \* e.g. the effectiveness of psychotherapeutic interventions for sexual dysfunctions
- \* e.g. the association between genital and subjective sexual response on visual erotic material in women with and without sexual arousal problems
- \* e.g. the use of oral medication for ED in specific groups
- ✓ Meta-analysis
  - \* Summarising analysis of different studies that address a specific topic and that are comparable
- Applied research/studies
  - ✓ Aim = to replicate the theoretical findings in real life situations after testing in the laboratory of clinical studies (field study)
  - ✓ the effect of pharmacological and psychological interventions was less convincing in clinical practice
    - \* e.g. the success ratios of Masters and Johnson were never replicated in later and better controlled studies
    - \* e.g. the efficacy of oral medication was less in field studies compared to the effect in clinical trials
      - ▶ highly motivated subjects !
      - ▶ less compliance ?
- Advantage
  - external validity of the results or the generalisation of the result
  - better 'ecological validity'
- Limitations
  - important to have enough participants with the same characteristics
    - ✓ Severe diagnostic procedures, clear intervention protocols and random assignment of participants
  - pre-testing
    - ✓ Pre-test sensitisation -> pre-test becomes a part of the intervention
    - ✓ Learning-effect
  - How representative is the sample for the total clinical population
    - ✓ refusals – drop outs – selection bias
  - Randomisation
    - ✓ Influence whether the intervention was the one the patient hoped for ...



- Ethical issues
  - ✓ The distress of patients does not always allows to wait too long with treatment
- Contamination
  - ✓ there are a lot of factors in clinical research that are not controllable
- Cross-over design is not always possible
- Clinical research is limited in its explaining force



b) Observational research

- Aim = to study occurrences in their ‘natural setting’ without any intervention or manipulation of the researcher
- Observation without intervention
  - Natural setting can be different:
    - ✓ E.g. home environment, clinical practice, the zone where prostitutes and clients meet each other, ...

- Different types
  - Direct observation
    - ✓ e.g. Masters & Johnson's research
    - \* Video -> G. Wagner (1974)
  - Longitudinal studies
    - ✓ the same person is being followed and questioned about the same variables on different times
    - ✓ could also be an experimental intervention study over time
- Advantages
  - It is not always possible or acceptable to do experimental interventions
  - Easier to realise
  - Internal validity
    - ✓ Observe : B after A
    - \* B is not the cause of A = quite confident about
    - \* A is the cause of B = not possible as statement
- Limitation
  - Possible that the independent variable does not occur
    - ✓ E.g. mood, pregnancy, ...

c) Experimental research

- Aim
  - To study the influence of one or more independent variables on one of more well-operationalized dependent variables in a situation in which confounding factors are as much as possible being controlled for
- Type
  - RCT or nRCT
  - Clinical or non-clinical sample -> randomly assigned to
    - ✓ experimental manipulation or treatment
    - ✓ alternative treatment or no treatment
    - ✓ control group or 'waiting list'
  - Matching to minimize the influence of specific factors
    - ✓ age, number of children, disease, ...

- Psychophysiological research
  - ✓ relation between psychological and physiological reactions
  - ✓ specificity
    - \* genital vasocongestion
    - \* men: change in penile circumference, penile volume and rigidity
    - \* Women: temperature increase of labia minora or in vaginal wall, reflection of light
  - ✓ relation in time
- Disadvantage
  - External ecological validity
  - Self-selection bias
  - Psycho-physiological research is too much focused on genital reactions
  - Too much focus on measurable objective indices of sexuality and less attention for emotions or meaning of sexuality
- Limitations
  - Falsification of common sense

# Reliability and validity

- A scientific discipline is as good as the instruments used
  - Meaningful conclusions are generated by methods that are both valid and reliable
    - ✓ How can reliability and validity be measured and assessed in sexuality research done with 'self report' ?

Self report is vulnerable to a number of sources of error and bias

## 1. Reliability

- A measure is reliable if consistent or stable
  - Hypothetically: If you use the same instrument simultaneously multiple times with the same research participants the results would be completely identical
- 3 commonly used methods:

### a) Test-retest reliability

- With how many partners have you had vaginal intercourse during the previous 12 months ?
  - Two questionnaires conducted 3 months apart
    - ✓ Not the same period is covered
      - \* there may be changes in sexual experience
    - ✓ "in the 12 months prior to the previous interview?"
      - \* can respondents recall the boundaries in time ?
  - Assess the number of partners at 2 different points in the same interview
    - ✓ High consistency = recall the first response in the interview
- Reality = compromise
  - Two separate assessment sessions spaced closely enough in time
- Single item versus multiple item scales
  - "Attitudes to condom use"
    - ✓ Single item questionnaire
      - \* Ambiguous language
      - \* Careless responding by respondents
    - => High vulnerability to measurement error

- ✓ Multiple item scales
    - \* Some items with ambiguous language
    - \* Some careless responding
- => Generating one score : the effect of both biases is watered down

b) Internal consistency of scales (Cronbach's alpha)

- Generalizability of internal consistency estimates
  - IC of that particular sample
  - persons with a higher degree of self-consciousness are more self aware and generate more consistent answer to questionnaires
- Internal consistency and unidimensionality
  - IC  $\neq$  unidimensionality
  - If you want to have an index of homogeneity -> use factor analysis

c) Inter-rater reliability

- Reliability of
  - observations
  - Judgements regarding stimuli
- Used in sex research when comparing reports of the same phenomenon by 2 or more subjects
  - To what degree do partners agree on self reported frequency of sexual intercourse ?
  - To what degree do partners agree that each of several sexual behaviour did or did not occur

d) What is adequate reliability ?

- rules regarding acceptable numerical values for each type of reliability
- subjective process dependent on the measure and the context in which it was used
  - How long is the measure ?
  - What is the time between two measuring points?
  - Is it a stable construct?
  - One rater – numerous raters ?

## 2. **Validity**

- A measure is valid if it accurately measures what it intended to measure

### a) What are we measuring in sex research ?

- Hypothetical constructs
  - Sexual arousal, sexual esteem, sex desire
  - Create self-report scales that intend to indirectly measure the construct of interest

### b) Exercise

- Give a operational definition for the next variables
  - Sexual arousal for men, child sexuality, sexual desire, sexual intercourse
  - Sexual arousal for women, sexual orientation, length of penis, sexual desire
  - Sexual desire, sexual aversion, frequency of sexual intercourse
  - Promiscuous sexual behaviour, sexual desire, erection
- Look back at the definitions you made for all the variables
  - See how you could measure these in a valid and reliable way

## 3. **Factors influencing reliability**

- Sexual experiences and attitudes are sensitive information => self-report
- Self-report is vulnerable to a number of sources of error and bias that can affect reliability and validity
- Review of the most important sources of error and bias in the context of sex research

### a) Participant factors

- Respondents' actual sexual attitudes and experiences should be the only factor affecting responses
- But other factors besides this primary source of information affect the responses of participants:

- Memory and recall
  - ✓ With how many different partners have you had vaginal intercourse during your life time ?
    - \* Accurate response = 0 or 1, 2 or 3 partners
    - \* More long term relationship partners, casual sexual affairs or one-night stands spread over 25 years
    - \* Respondents will give a round number ending at 0 or 5 (e.g. 5, 10, 15, 20)
  - ✓ How many times during the past 12 months did you use your mouth to stimulate a partner's genitals ?
    - \* People go through a cognitive process to arrive at an estimate
    - \* The process occurs in a few seconds and the respondent does even not try to remember each instance because to do so is impossible
    - \* Accuracy of the estimate is dependent on the frequency of that behaviour and the accuracy of recall of the behaviour
    - \* Minor exceptions (e.g illness during a week) are not taken into account in global estimates
  - ✓ More difficult to recall particular behaviors over longer time compared to shorter time -> e.g.
    - \* Did you use a condom during your most recent experience of vaginal intercourse ?
    - \* How often did you use condoms during the previous 12 months?
  - ✓ Based on recent use there might be a tendency to overestimate condom usage during the previous year or based on a more lax use of condoms during the past months there might be an underestimation for the previous year
 

=> the more recent experiences bias the estimate for the longer time span
  - ✓ Be cautious about of the absolute accuracy of answers respondents provide about events that occurred several years ago or at very young age regardless of the nature of the events
    - \* "At what age did you first engage in self stimulation of your genitals ?"
  - ✓ There are more distortions to answer these questions as when the event is more distant in time

- Degree of insight
  - ✓ Why-questions presuppose some degree of introspection as e.g. questions pertaining to decision making or motives
    - \* What factors led you to the decision to have sexual intercourse the first time with your recent partner ?
      - ▶ He was the kindest person I ever met !
    - \* Why did you break up with your most recent partner ?
      - ▶ We were no longer communicating and just grew apart !
  - ✓ The answer to these questions demand recall and insight into one's motives and factors that led to particular emotions and decisions
  - ✓ People very often do not have good insight in these mental processes
  - ✓ These are typical answers yet it is doubtful that they capture the complexity of the experience
  - ✓ These answers are provided based on stereotypes and believes they hold regarding the causes of relationship events
- Placebo and expectancy effects
  - ✓ The assumption that an intervention must have had some effect creates some expectancies about improvement
  - ✓ This implies that participation in a program – regardless of its efficacy – will lead to participants reporting some improvement
    - \* e.g. placebo response to pharmacological intervention
    - \* e.g. participation in a sex education program will often result in a description of improvement regardless of the efficacy of the intervention
- Response sets
  - ✓ Respondents vary systematically in their tendency to provide certain responses regardless of the content of the items
    - \* A tendency to use the extreme ends of the scale
    - \* A tendency to avoid the extreme ends of the scale and gravitate to the middle
  - ✓ Reversed scored item with positive and negative wording
    - \* I think about sex more than anything else
    - \* I hardly ever fantasize about sex



- ✓ Is reverse scoring of the second = score on the first item ?
- ✓ Absence of sexual preoccupation ≠ absence of sexual thoughts and fantasies
- Social desirability response bias
  - ✓ Some respondents distort their responses, consciously and unconsciously, to present themselves in a positive light
  - ✓ Individuals may vary with regard to what is considered to be socially desirable when it comes to sex attitudes and experiences and this may be related to gender, life stage and membership in various subcultures
  - ✓ Mostly tested by association of the Marlow-Crowne scale that evaluates the general tendency towards unrealistic positive self-presentation

b) Research method factors

- Question wording and terminology
  - Self-report relies on “words” spoken or printed -> misinterpretation is possible
  - Can researchers be sure that words used in an interview have the same meaning for all respondents as they do for the researchers ?
  - Researchers often take great care in choosing the wording for the questions
  - However, it is easy for different meaning to arise:
    - ✓ How many sex partners have you had during your lifetime?
    - ✓ How often have you and your sex partners engaged in sex during the past month ?
    - ✓ Have you ever forced someone to have sex against his/her will?
      - \* What does the word sex mean in the above mentioned questions: is ‘sex’ = vaginal intercourse ? ~ oral or manual stimulation of the genitals ? ~ involvement of a penis that ejaculates ? ~ what then about lesbian sex ?
  - How will these words be interpreted by different respondents with different histories, upbringings and religious values
    - ✓ How often do you experience sexual desire ?
      - \* How strong should the desire be to be counted ?

- ✓ How frequently do you masturbate ?
  - \* Masturbation reveals a strong emotional reaction
  - \* How frequently do you masturbate ?
  - \* versus
  - \* How frequently do you stimulate your own genitals for sexual pleasure or release ?
- Response choices
  - Response choices are used to generate estimates or determine what is normal
    - ✓ Choosing the middle option in 2 different questionnaires may lead to two different meanings
    - ✓ The response choices can influence the data they provide
    - ✓ E.g. condom use:
      - ✓ Never = once or twice out of 20
      - ✓ Always = 18 or 19 times out of 20
      - ✓ Rarely, sometimes, frequently, occasionally will be differently interpreted by different people
- Context and order effects
  - questions are not situated in a vacuum
  - the questions that surround the target question may influence the responses to that question
  - the answer to a question may be influenced by the answer to a related question => to be consistent
    - ✓ people go back and change answers
  - respondents consider questions surrounding a particular question to determine what is meant by the researcher
    - ✓ Q about sexual relationship => Q satisfaction
    - ✓ Q about family relationships => Q satisfaction
  - Context can also influence the evaluation of attitudes or feelings
  - Previous questions may influence responses to a current question because the previous question call to mind particular experiences, attitudes or feelings
    - ✓ Rate overall satisfaction with life
    - ✓ Preceded by Q about sexual functioning and relationship issues
    - ✓ That will affect how the R rates his overall satisfaction with life

- Conditions and procedures
  - What is most comfortable, most free to answer openly and honestly ?
  - Q about the first sexual experience ?
    - ✓ Alone
    - ✓ In presence of the relationship partner
  - Anonymity
    - ✓ If they believe that other may hear or see their answers is important – not whether that is really possible
  - masturbation – extramarital sex
    - ✓ Anonymous Q > face-to-face interview
    - ✓ computer program > human interviewer
    - ✓ in presence of a stranger > family members or peers

c) Conclusion

- Constructing a sound and interview schedule or interview is complex
- These potential influences on self-report should be taken into account when designing the research and interpreting the results.

# Sampling considerations

- Validity of sex research is being impacted by:
  - sample selection
  - sample recruitment
- In the field of sex research generalisation has been hampered by ad hoc approaches to sampling
  - Ad hoc approaches confront us with:
    - ✓ 4 problems
      - \* Coverage error
        - ▶ Significant proportions of the population are absent from lists used to draw the sample
      - \* Selection on the dependent variable
        - ▶ Participants are chosen because they have a specific sexual characteristic
      - \* Non-response error
        - ▶ Participants that are lost after selection due to inaccessibility or refusal
      - \* Measurement error
        - ▶ Difference between the true value and the sample mean due to imprecise or biased measurement

## 1. Coverage error

### a) Kinsey's study = no systematic random sampling

- 163 separate groups were approached
  - Overreliance on college students
  - Estimates of males with any homosexual behaviour = 2 or 3 times higher than in random samples iff the general population

b) Hite report (1981)

- convenience sampling
  - readers of magazines, people that asked to be included, ...
  - 13% of men had strong homosexual or bisexual preference = 2 times higher than in recent studies

c) Study of Sandfort (1997)

- Used 4 samples of gay men in the Netherlands:
  - Gay men of a random sample of the Dutch population (3.8%)
  - Readers of a gay/lesbian magazine
  - Randomly selected members of a Dutch gay and lesbian organisation
  - Members of a cohort of gay men involved in a longitudinal health study
- Adjusted for age

(%)	Random	Readers	Member	Gay cohort
Steady relationship	71.4	60.8	80.6	61.2
Sex outside the primary relationship	24.4	50.2	65.4	72.7
Partner has sex outside the relation	43.4	69.9	NA	NA
Often have sex with casual partners	17.5	28.7	NA	33.6

d) Two conclusions

- Convenience sampling
  - overestimates prevalence due to sampling based on the dependent variable
  - is criticised mainly due to limits to inference about the general population
- Coverage error is an important source of bias

- Sampling design should be appropriate to:
  - the questions
  - available resources

## 2. Decision about sample selection's first- order questions

- Do you want to generalize ?
  - If so, how broadly ?
- Is your work exploratory or do you want to test hypotheses ?
- Are there special subgroups in the population you want to study in detail ?
- How rare are the phenomena of interest and how widely dispersed in the community ?

=> determine the nature and the size of your sample

## 3. Second- order questions

- How much money, time and expertise do you have ?
- Is there an existing, valid population register from which you can select ?
- What mode of interview or measurement do you prefer ?
- How many people will agree to participate given the methods you have chosen?

=> determine sample and methodology

## 4. Two primary classes of methods

- Probability sampling
  - Every person in a population has a known non-zero probability of being included in the sample
  - Allows to draw valid inferences about populations and to determine the precision of the estimates
  - Examples
    - ✓ Simple random sampling
      - \* Most statistical theory is built on the basis of unrestricted random sampling (URS) => every unit can be selected more than once
      - \* Simple random sampling = unit selection without replacement
        - ▶ Each unit get a number and than random number tables are used

- ✓ Systematic random sampling
  - \* After having chosen a starting point to do the selection from a list every kth element from the population is chosen
- => These methods aim at separation the preconceptions of the researchers from the process by which elements are selected
  - Major limitation = difficult to sample rare individuals
- ✓ Stratified random sampling
  - \* Overcome the limitations of simple of systematic RS
  - \* Designed to achieve a high degree of representativeness in samples
    - ▶ Proportional stratification
    - ▶ Disproportionate stratification
- ✓ Cluster sampling
  - \* Choosing elements from an existing list is the most easy way of sampling
    - ▶ List of schools  $\neq$  list of students
    - ▶ Take all the students from a cluster
    - ▶ Taken random samples from students of the cluster
- Non-probability sampling
  - does not have this essential characteristic
  - no way of determining the reliability or validity of generalizations

## 5. **Third class of methods**

- Adaptive sampling
  - Practical reality = that many types of people are elusive and specific sexual practices are rare
  - Random selection to study subgroups that comprise only 1% or 2% of the population
  - Combining elements of probability sampling with an increased likelihood that people with special characteristics will be sampled

## 6. Non-probability sampling

### a) Convenience sampling

- most convenient + least expensive
- e.g. select individuals from groups of students, clinic attenders, volunteer from media advertisements
- used frequently in sex research
  - Strong phenomenological tradition to describe the variation i.s.o. results that can be generalized to larger population
  - Sex research is sensitive and its easier to obtain cooperation from groups with which the researcher has personal contact
  - Certain sexual characteristics are rare  recruitment from the general population is not possible
  - Funds for sex research usually are inadequate for population based studies

### b) Quota sampling

- Designed to achieve representativeness
- Review demographic data about the population
  - Diversity in gender, age, ethnicity, employment status, educational level, SES, ...
  - Construct a matrix to reflect the number of people who fit into defined cells
    - ✓ E.g. the number of individual that are female, 18 to 30 years old, Latino, and employed
  - If the proportions of people in the population are know + desired sample has been chosen , these proportions determine the numbers of people to be recruited for each cell in the sample
  - Participants are purposively recruited until the required number of participants is achieved using varied sources of recruitment



c) Snowball or network sampling

- Suitable for work with rare, covert or highly elusive populations
- Based on the assumption that people know each other
  - e.g study of sex workers
- Usefulness of network sampling should not only be judged by the representativeness of the sample
- The external validity of the findings can also be judged by the convergence of evidence from diverse sources.

7. **Adaptive sampling of rare or difficult to reach populations**

- Sampling that facilitates contact with rare or elusive population minimizing the biases based on selection on the dependent variable and lowering the cost of probability sampling

8. **Self-selection (participation) bias**

- Can affect the validity of the data
  - The likelihood that people will participate in influenced by:
    - ✓ the mode of interview
    - ✓ the way in which people in samples are approached
  - Refusal can be:
    - ✓ direct, explicit
    - ✓ Passive
  - There are often no data on refusers
  - Volunteers
    - ✓ are less often virgins
    - ✓ have more sexual partners
    - ✓ are more interested in erotica and novel sex partners
    - ✓ hold liberal sexual attitudes
    - ✓ have a higher sexual self-esteem
    - ✓ less personal sexual guilt

9. **Techniques to minimize non participation**