

*UE 7.4 -  
Méthodologie  
d'analyse d'articles*

CM6 : Researcher integrity, Validity, and  
Qualitative research

## L'importance du regard critique : Wakefield *et al.* (1998)

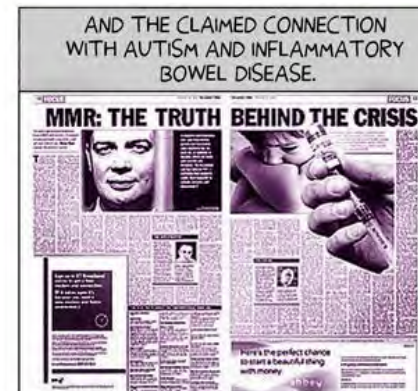
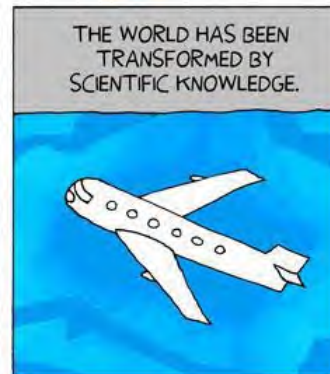
- Article du *Lancet* :
  - Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children
- Couverture médiatique alarmiste
  - Conséquences importantes
- Niveau de preuve
  - Echantillon, témoins

**Mais qui est le coupable ?**

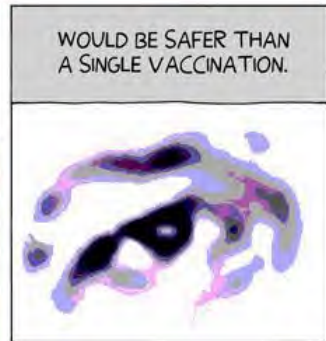
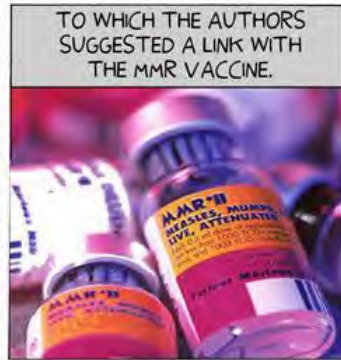
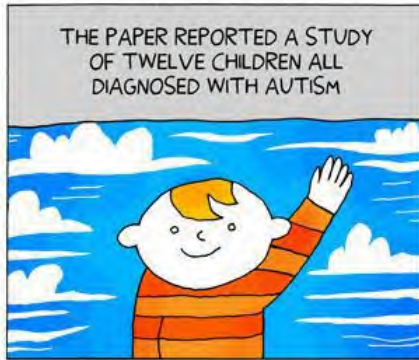
# The Tall Guy Investigates Cartoon Strip

<http://tallguywrites.livejournal.com/148012.html>

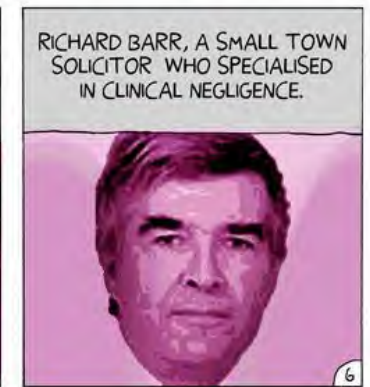
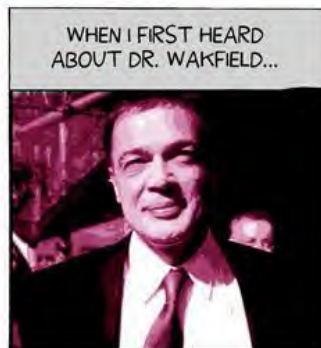
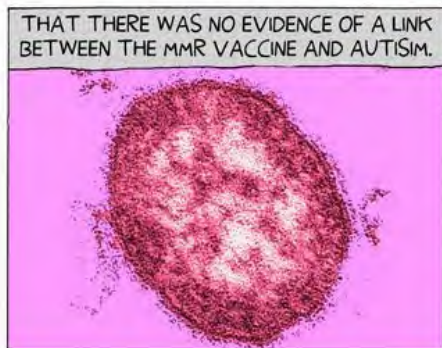
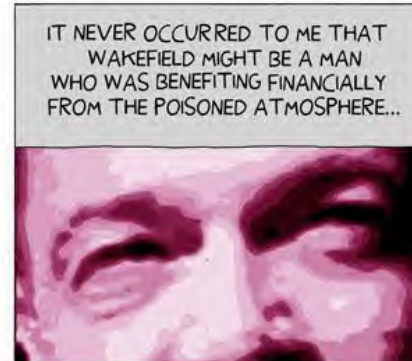
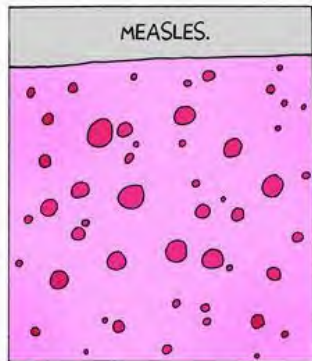
THE  
FACTS IN  
THE CASE OF  
DR. ANDREW  
WAKEFIELD







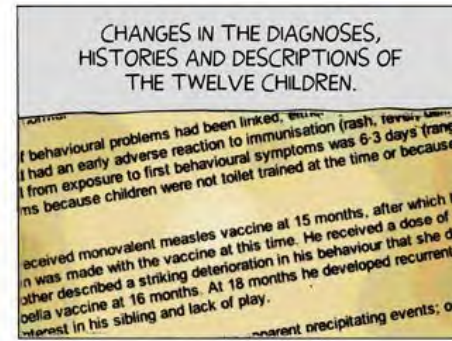
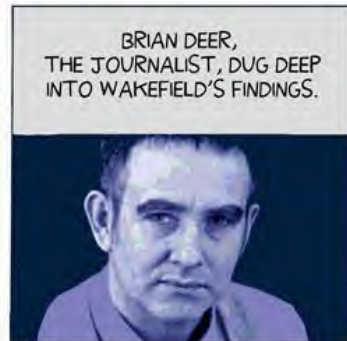
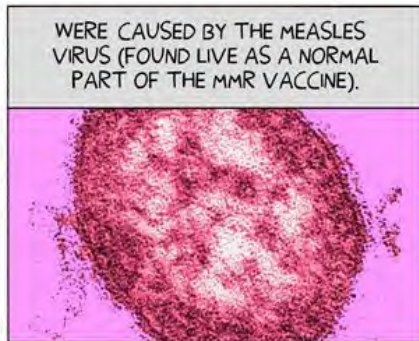
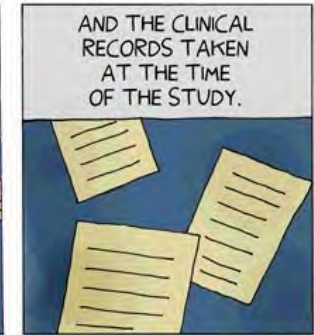
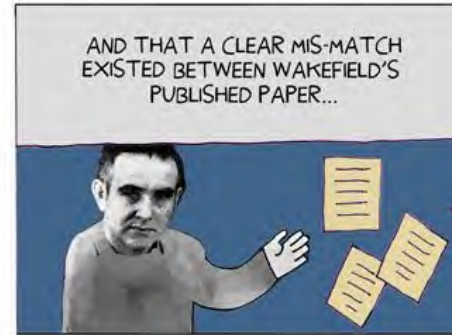
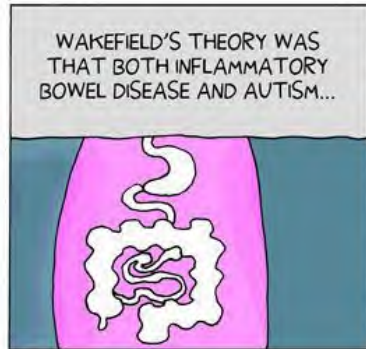
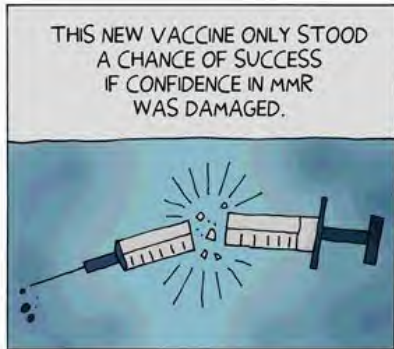














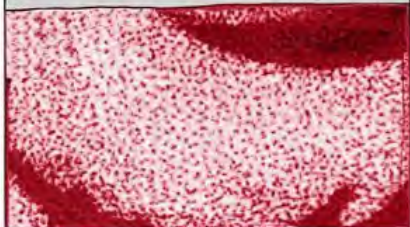
THE GMC DISCIPLINARY PANEL,  
WHICH SAT AND HEARD EVIDENCE  
FOR 147 DAYS...



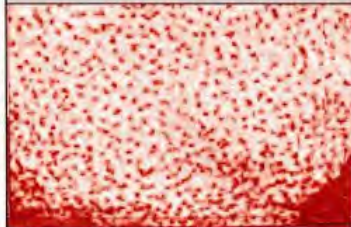
FOUND A LONG LIST  
OF CHARGES AGAINST  
WAKEFIELD PROVEN.



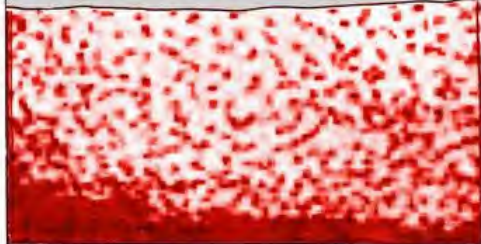
THE PANEL WERE PARTICULARLY  
CONCERNED ABOUT THE WAY CHILDREN  
WERE USED IN WAKEFIELD'S TRIAL.



IT'S A FUNDAMENTAL  
PRINCIPLE OF PAEDIATRICS...



THAT NO CHILD SHOULD SUFFER  
MORE THAN A BLOOD TEST  
UNLESS IT IS NECESSARY  
FOR THEIR HEALTH.



OBVIOUS, YOU  
WOULD THINK.



HOWEVER, IN THE INTERESTS OF  
PROVING WAKEFIELD'S THEORY...



THE CHILDREN WERE GIVEN A  
BATTERY OF TESTS.



COLONOSCOPES, LUMBAR PUNCTURES  
AND BARIUM MEALS. DISTRESSING  
PROCEDURES FOR ANY CHILD.



NONE OF WHICH WAS  
APPROVED BY THE HOSPITAL'S  
ETHICS COMMITTEE.



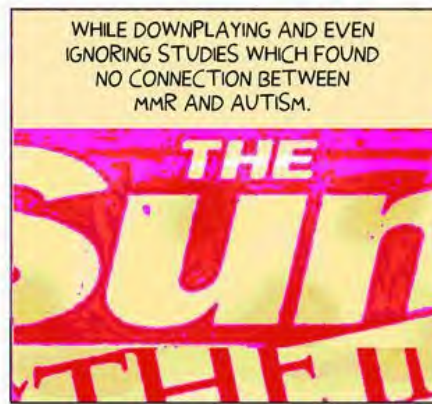
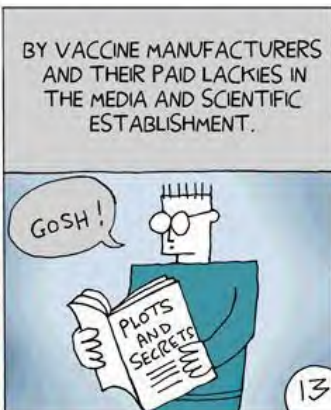
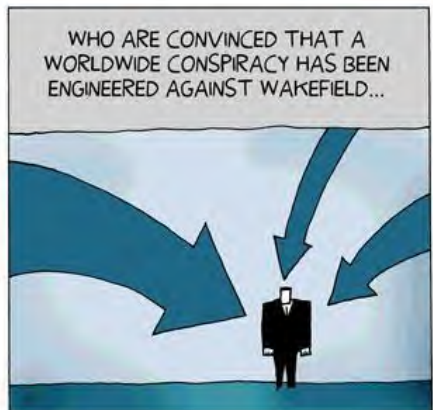
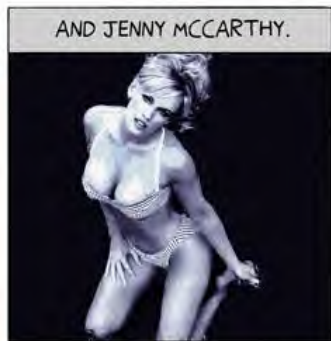
ALL THIS EVIDENCE CRUSHED  
WAKEFIELD'S DEFENCE.

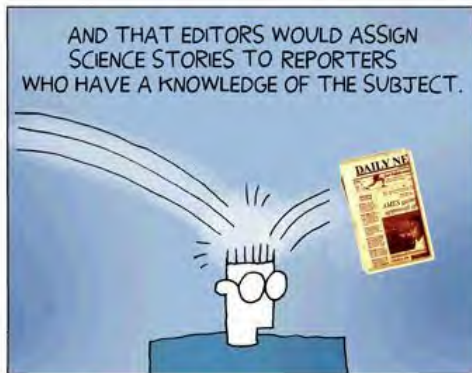


HE WAS FOUND BY THE GMC  
TO HAVE ACTED DISHONESTLY  
AND IRRESPONSIBLY.









Tous  
coupables ?



# Validité



## Rappel :

Validité externe – conclusions peuvent être étendues à l'ensemble de la population

Validité interne – absence de biais



## Evaluation de cet aspect

2 listes de points à vérifier



# Menaces pour la validité interne

**Maturation** – Étude plus longue, changement des comportements ou attitudes des participants

**Sélection** – À l'inclusion, et à l'attribution

**Histoire** – Événements socio-politiques

**Instrumentation** – calibration et contrôle

**Régression** – effet dû à un phénomène statistique

**Attrition** – données manquantes, différences fondamentales entre ceux qui persèverent et les autres.






## Menaces à la validité externe

**Effet de test réactif** – répondre à une enquête avant une intervention peut influencer sur le comportement

**Effet de sélection interactif** – les participants ont des caractéristiques qu'on ne trouverait pas ailleurs

**Effet d'innovation réactif** – la nature artificielle de la situation change l'attitude des participants

**Interférence externe** – la participation à des activités en dehors de l'étude peut avoir une influence



L'importance  
de  
l'échantillon  
pour la validité

Un **sous-groupe** d'une **population cible**

Objectif : pouvoir extrapoler les résultats

Obéit à des **critères d'inclusion et d'exclusion**

Méthodes d'attribution

Aléatoire

Systematique (tous les x)

Stratification (tiré de sous-groupes)

Communautés

Convenance (biais quasi systematique)



# L'article de recherche qualitative

Questions humaines ou sociales dans leurs milieux naturels

Approche inductive

Raisons méthodologiques ou éthiques qui excluent une approche quantitative

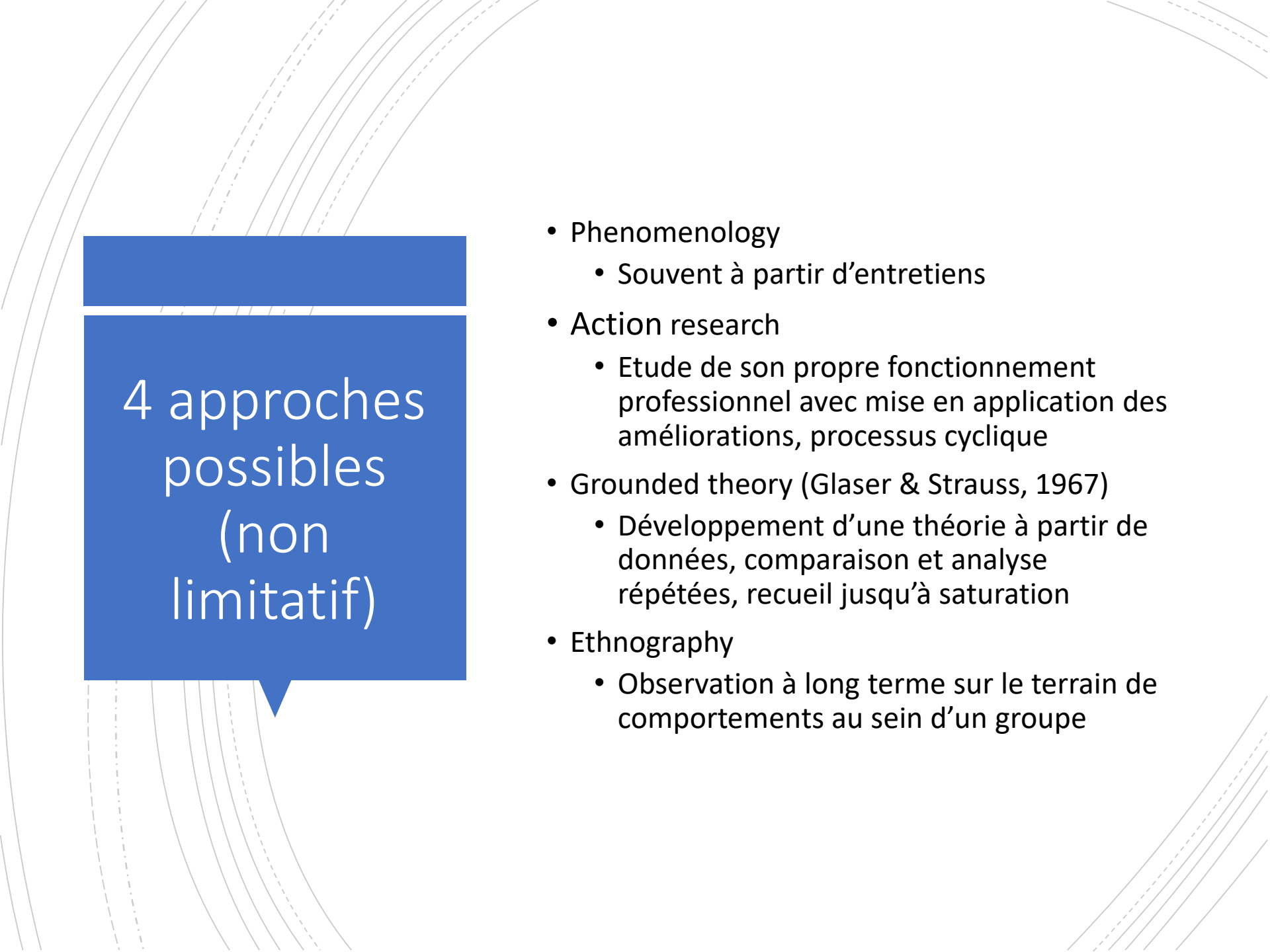
Sujets **ne peuvent ou ne veulent** pas participer dans une étude expérimentale traditionnelle

Situations où il y a un groupe émergent

Supplément aux méthodes quantitatives – recherche d'hypothèses, d'explications

Consentement impossible

Etudes d'un individu, culture, société ou phénomène



4 approches  
possibles  
(non  
limitatif)

- Phenomenology
  - Souvent à partir d'entretiens
- Action research
  - Etude de son propre fonctionnement professionnel avec mise en application des améliorations, processus cyclique
- Grounded theory (Glaser & Strauss, 1967)
  - Développement d'une théorie à partir de données, comparaison et analyse répétées, recueil jusqu'à saturation
- Ethnography
  - Observation à long terme sur le terrain de comportements au sein d'un groupe





Des  
méthodes  
variées

Observation - participation

Immersion du chercheur dans le groupe

Observation directe

Le chercheur est effacé

Interview libre

Pas de structure fixe hormis quelques questions initiales

Etudes de cas

Faire ressortir des théories à partir des cas (entretiens et/ou observation)



# Assurance qualité

Validité – reflet exact

Triangulation – plusieurs approches

Méthodes

Sources

Analystes

Théories

Observations contradictoires – identification  
et explication

Validation par les sondés – vérification des  
interprétations

Comparaisons répétées – vue d'ensemble,  
source d'idées

Fiabilité – reproductible?



# Les plus et moins de l'approche qualitative



- Niveau de détail [L] [SEP]
- Questions évolutives en temps réel.
- Méthodologie adaptative pour tenir compte des nouveaux faits observés.
- Intérêt humain plus riche que des chiffres.
- Identification de nuances ou aspects compliqués.
- Conclusions peuvent être transférées à d'autres situations



- Qualité dépend de l'expérience et compétence du chercheur.
- Subjectivité peut mener à des biais.
- Méthodologie peut manquer de rigueur.
- Analyse des données prend du temps.
- Parfois vu comme inférieur à l'approche quantitative
- Réponses des participants peuvent être influées par la présence du chercheur.
- Problèmes d'anonymat et de confidentialité lors de la publication
- Difficultés de visualisation des observations.
- Conclusions ne peuvent pas être extrapolées à une population plus large

# Méthodes mixtes – qualitative + quantitative

- Questionnaires
  - Échelles quantifiables
- Analyse de discours
  - Codification, traitement automatique
- Recueil de données des deux types
  - Séquentiel
  - Concomitant – deux études indépendantes ou recueil imbriqué



# Éléments pour l'analyse

## **Title**

- Was the title a good one, suggesting the key phenomenon and the group or community under study?
- 

## **Abstract**

- Does the abstract clearly and concisely summarize the main features of the report?
- 

## **Introduction**

Statement of the problem

- Is the problem stated unambiguously and is it easy to identify?
- Does the problem statement build a cogent and persuasive argument for the new study?
- Does the problem have significance for practice?
- Is there a good match between the research problem on the one hand and the paradigm, tradition, and methods on the other?

Research questions	<ul style="list-style-type: none"><li>➤ Are research questions explicitly stated? If not, is their absence justified?</li><li>➤ Are the questions consistent with the study's philosophical basis, underlying tradition, conceptual framework, or ideological orientation?</li></ul> <hr/>
Literature review	<ul style="list-style-type: none"><li>➤ Does the report adequately summarize the existing body of knowledge related to the problem or phenomenon of interest?</li><li>➤ Does the literature review provide a solid basis for the new study?</li></ul> <hr/>
Conceptual underpinnings	<ul style="list-style-type: none"><li>➤ Are key concepts adequately defined conceptually?</li><li>➤ Is the philosophical basis, underlying tradition, conceptual framework, or ideological orientation made explicit?</li></ul>

## Method

Protection of participants' rights

- Were appropriate procedures used to safeguard the rights of study participants? Was the study subject to external review by an IRB/ethics review board?
  - Was the study designed to minimize risks and maximize benefits to participants?
- 

Research design and research tradition

- Is the identified research tradition (if any) congruent with the methods used to collect and analyze data?
- Was an adequate amount of time spent in the field or with study participants?
- Did the design unfold in the field, giving researchers opportunities to capitalize on early understandings?
- Was there an adequate number of contacts with study participants?



- Was the number of data collection points appropriate?
  - Did the design minimize biases and threats to the internal construct, and external validity of the study (e.g., was blinding used, was attrition minimized)?
- 

## Population and sample

- Was the population identified and described? Was the sample described in sufficient detail?
- Was the best possible sampling design used to enhance the sample's representativeness? Were sample biases minimized?
- Was the sample size adequate? Was a power analysis used to estimate sample size needs?

## Data collection and measurement

- Are the operational and conceptual definitions congruent?
- Were key variables operationalized using the best possible method (e.g., interviews, observations, and so on) and with adequate justification?
- Are the specific instruments adequately described and were they good choices, given the study purpose and study population?
- Does the report provide evidence that the data collection methods yielded data that were high on reliability and validity?

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## Procedures

- If there was an intervention, is it adequately described, and was it properly implemented? Did most participants allocated to the intervention group actually receive the intervention? Was there evidence of intervention fidelity?
- Were data collected in a manner that minimized bias? Were the staff who collected data appropriately trained?

## Results

### Data analysis

- Were analyses undertaken to address each research question or test each hypothesis?
- Were appropriate statistical methods used, given the level of measurement of the variables, number of groups being compared, and so on?
- Was the most powerful analytic method used? (e.g., did the analysis help to control for confounding variables)?
- Were Type I and Type II errors avoided or minimized?

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### Findings

- Was information about statistical significance presented? Was information about effect size and precision of estimates (confidence intervals) presented?
- Are the findings adequately summarized, with good use of tables and figures?
- Are findings reported in a manner that facilitates a meta-analysis, and with sufficient information needed for EBP?



## **Discussion**

Interpretation of the findings

- Are all major findings interpreted and discussed within the context of prior research and/or the study's conceptual framework?
- Were causal inferences, if any, justified?
- Are the interpretations consistent with the results and with the study's limitations?
- Does the report address the issue of the generalizability of the findings?

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Implications/  
recommendations

- Do the researchers discuss the implications of the study for clinical practice or further research—and are those implications reasonable and complete?

## **Global Issues**

### Presentation

- Is the report well written, well organized, and sufficiently detailed for critical analysis?
  - In intervention studies, was a CONSORT flow chart provided to show the flow of participants in the study?
  - Was the report written in a manner that makes the findings accessible to practitioners?
- 

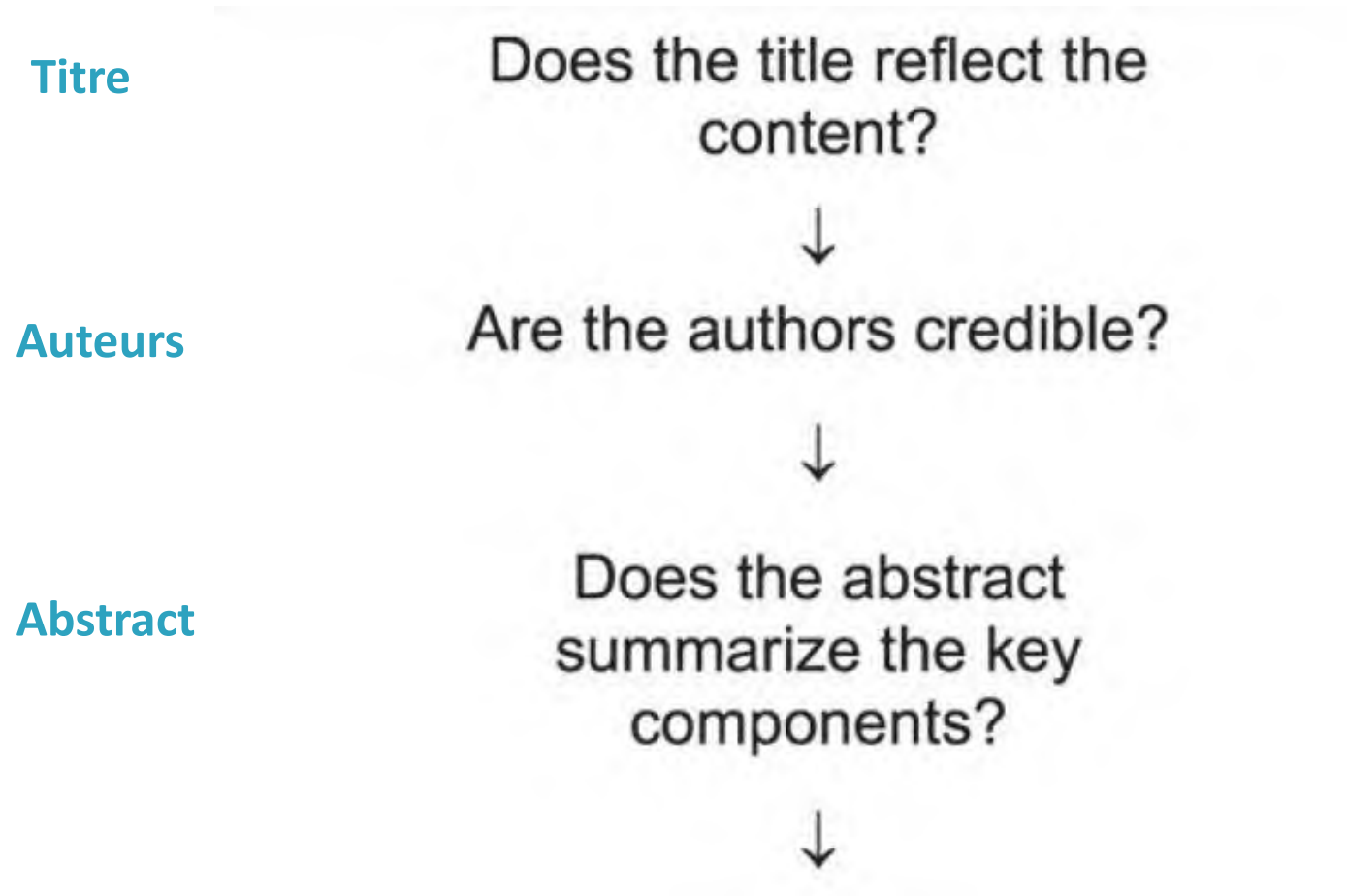
### Researcher credibility

- Do the researchers' clinical, substantive, or methodologic qualifications and experience enhance confidence in the findings and their interpretation?
- 

### Summary assessment

- Despite any identified limitations, do the study findings appear to be valid—do you have confidence in the *truth* value of the results?
- Does the study contribute any meaningful evidence that can be used in practice?

# Un modèle d'analyse : Caldwell *et al.* (2011)





## Introduction

Is the rationale for undertaking the research clearly outlined?



Is the literature review comprehensive and up-to-date?



Is the aim of the research clearly stated?



## Méthodologie

Are all ethical issues identified and addressed?



Is the methodology identified and justified?

**Quantitative**

Is the study design clearly identified, and is the rationale for choice of design evident?



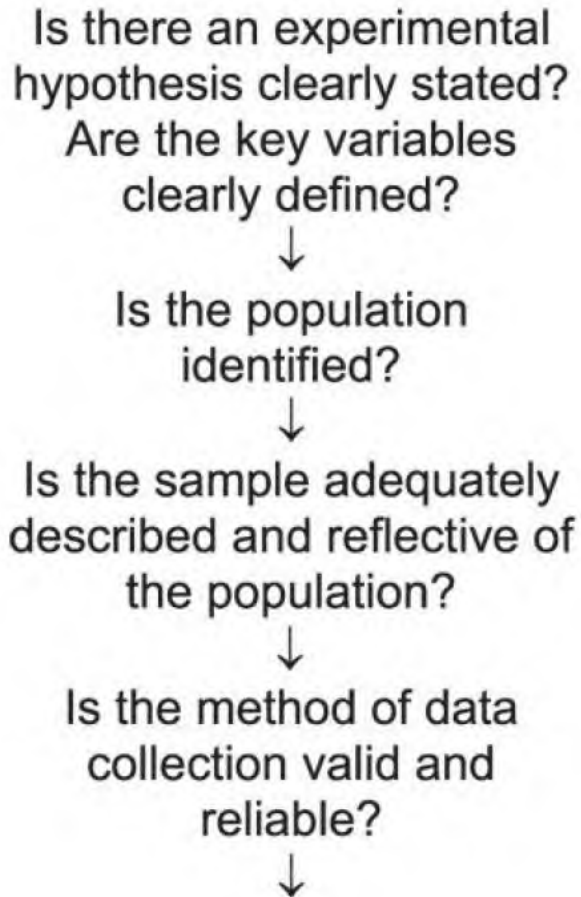
**Qualitative**

Are the philosophical background and study design identified and the rationale for choice of design evident?

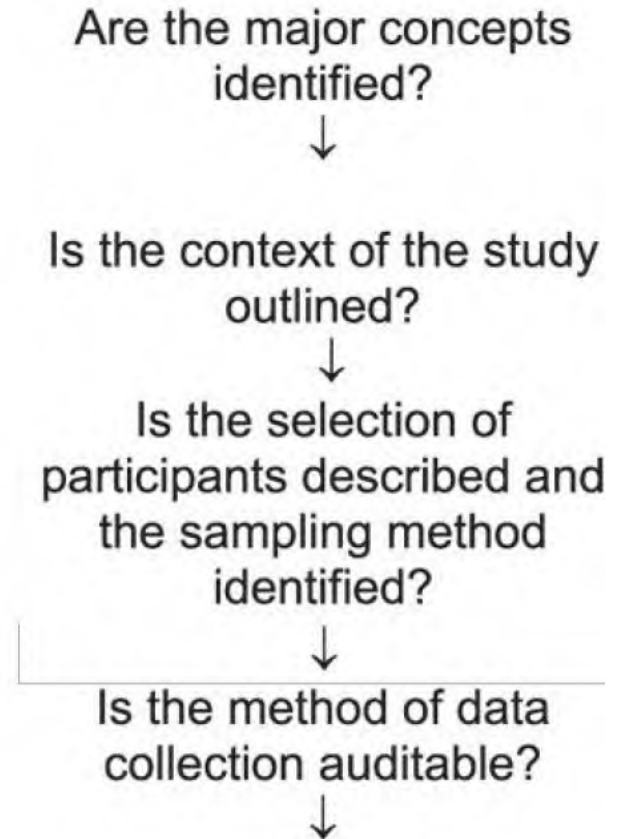


# Méthodologie

## Quantitative



## Qualitative





## Quantitative

## Qualitative

Is the method of data analysis valid and reliable?

Is the method of data analysis credible and confirmable?



Are the results presented in a way that is appropriate and clear?



Are the results generalizable?



Is the discussion comprehensive?



Are the results transferable?



Is the conclusion comprehensive?

# Mise en application

Qualitative Research article :

Stans, S. E., Dalemans, R. J., Roentgen, U. R., Smeets, H. W., & Beurskens, A. J. (2018). Who said dialogue conversations are easy? The communication between communication vulnerable people and health-care professionals: A qualitative study. *Health Expectations*.