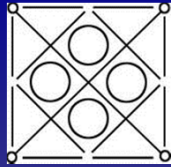


## Assessing Medical Constitution: Quantitative vs Qualitative Methods, Cycles.



William Morris PhD

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## Validity:

- Quantitative
  - Internal validity
  - External validity
  - Reliability
  - Objectivity
- Qualitative
  - Credibility
  - Transferability
  - Dependability
  - Confirmability

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## All Research is Qualitatively Ensnconced

- The researcher chooses:
  - Topic
  - Methods
  - Analyses
  - Presentation
- The researcher is socially and economically embedded – with resulting world views.

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## Legitimization crisis

- involves validity, reliability and correspondingly, generalizability.

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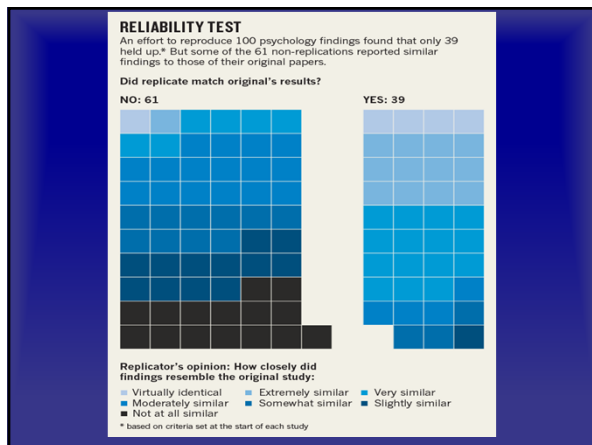
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## Who's Afraid of Peer Review?

- By the time *Science* went to press, 157 of the journals had accepted the paper and 98 had rejected it. Of the remaining 49 journals, 29 seem to be derelict: websites abandoned by their creators.

John Bohannon  
*Science* 04 Oct 2013; Vol. 342, Issue 6154, pp. 60-65  
DOI: 10.1126/science.342.6154.60

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**Marcia Angell:  
Editor in Chief of NEJM**

- “It is simply no longer possible to believe much of the clinical research that is published, or to rely on the judgment of trusted physicians or authoritative medical guidelines. I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as an editor of *The New England Journal of Medicine*.”

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**Dr. Richard Horton:  
editor-in-chief of the Lancet**

- “The case against science is straightforward: much of the scientific literature, perhaps half, may simply be untrue. Afflicted by studies with small sample sizes, tiny effects, invalid exploratory analyses, and flagrant conflicts of interest, together with an obsession for pursuing fashionable trends of dubious importance, science has taken a turn towards darkness.”

<http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736%2815%2960696-1.pdf>

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**The Ask: data on income from  
advertisements, reprints, and  
industry-supported supplements  
as a percentage of total income**

- The editors of the two UK-based journals, *BMJ* and *The Lancet*, provided the data. The editors of *JAMA* and *The New England Journal of Medicine (NEJM)* declined, as did the publisher of *Annals of Internal Medicine*.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2964337/>

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## Legitimation

- Legitimation must occur for the researcher, the researched and the communities that would apply the resulting knowledge.

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## *Validity Language Emergent from the Action Research Movement*

- Validity may be considered as a measure of effectiveness.
- Democratic validity provides a human dimension and relies on more consent based models of agreeing about the knowledge.
- Catalytic validity is measured by the degree of transformation and is connected to the human experience.

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## *Five Forms of Triangulation*

- data triangulation
- investigator triangulation
- theory triangulation
- methodological triangulation
- environmental triangulation



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## Data Triangulation

- Data triangulation involves the use of different sources of information such as individuals and the group. Another form of data triangulation is the combination of artifacts and records with interviews.



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## Investigator Triangulation

- Triangulation with investigators involves the use of multiple researchers in order to gain multiple perspectives.



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## Theory Triangulation

- The application of a few theoretical forms to a problem
- Can be from the same field or from different fields.

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## Methodological Triangulation

- Involves quantitative, qualitative and mixed methods.



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## Environmental Triangulation

- Use of different locations, settings and other key factors such as time of the day, day of the week or season of the year. Look for convergence.



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