



# Publishing False Results in Medicine: Spurious, Discovery and Verification Findings

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## Abstract

The author attempts to review the material on medical research and sales promotion of drugs. The era chosen is 2004 to 2022. Year after year the information is roughly the same. Big pharma cheats on their research and their findings. The contribution of this article is consistent fraud. The author spends most of the time discussing how to analyze the pharmaceutical findings. The rest is from individual authors. The most credible research is that which is called verification findings and the medication is used by the public for at least two years or before. The socialvibes.net article is the most comprehensive and is taken from the internet.

## Introduction

BUSINESS WEEK author Barret suggests that medical research and in particular pharmaceutical studies are flawed [1]. Numerous studies are financed by the same parties that want to sell a drug. Thus, there is a conflict of interest. Nearly 60% of the studies are funded by "Big Pharma." Researchers redefine data to show positive results, sample until a significant difference is found and then stop, downplay negative results or delay these findings. Further, the drug companies hire ghost writers to write glowing reviews. Hire prominent medical doctors to endorse the drug. Spin the data, collapse spurious findings into significant ones, use non-random samples, and buy off regulatory bodies. Barrett [2] also criticizes drug companies relative to their advertising.

## Review/ Early Days

Healy [3] is critical of pharmaceutical research on a natural cold medicine that has 350 studies from Europe and the UK that suggest that the herb is a viable support to pathological symptoms relative to sinusitis and related. NEWSWEEK [4] spends nearly the entire issue on how alternative medicine can complement western medicine. They suggest that western medicine may be a bit overrated by flawed studies. BUSINESS WEEK [5] touts health guru and Harvard MD Andrew Weil as a potential candidate to conduct research on alternative medicine using best research strategies to

test their effect.

Bestselling author Gary Trudeau (without medical background) documents others' reports of fraud in the pharmaceutical industry [6,7] traces the story of how drug companies cover up problems with a diet drug using fraud and deception. Ioannidis [8] in JAMA suggests that the most famous and well-read studies do not show the same degree of significant differences in follow up studies and suggest the etiology of this problem. He further discusses numerous research strategies that will generally render false or spurious findings in new scientist (9/30/2005). The associated press [9] reports that nearly 95 billion dollars spent on medical and pharmaceutical research annually is funded mainly by "big pharma." Further, the authors of the studies usually have ties to corporations and related organizations that produce the drugs.

## Review/ Present Days

Hsu Jeremy [10] Hoffman Bjorn [11], Academy Enago [12] and a review of the previous in Snell Joel [13].

## Discussion

The authors would like to hypothetically indicate general strategies that would suggest that findings vary in the value of validity. Thus, the reader can clearly identify the following:

- a) Spurious Findings: This is operationalized to mean that the findings are likely to be false.
- b) Discovery Findings: This means that the author(s) have introduced concepts and data that need replication and improvement but are valuable because they introduce new subjects or new relationships among variables.
- c) Verification Findings: At this level, the research follows all necessary research protocol and have the funds to do all the necessary research without bias. It is these studies that should be held acceptable for a fast-changing field. It does not mean that the research will always be ultimately valid. It means that it is the state of the science or research methodology at the time of publication. (Please see Hans Zetterberg's classic methodology textbook) [14].

## Criteria

### Spurious Findings: They are

- a) Research has totally fraudulent research. Numbers have been invented. Findings fit the author(s) agenda. It is a total fabrication [15].
- b) The quality of the research is so poor and so refutable that the findings should be discounted.
- c) Testimonial data. In this situation, no research has been conducted but the authors look for individuals that will support the agenda of the authors [16].
- d) Manipulated research. Numerous research protocols have been followed. However, the findings did not conform to the authors' bias; therefore, strategies are used such as data spinning, collapsing, redefining research objectives, not reporting findings when they clearly do not support the author, and related strategies [17].

### Discovery Findings: They are

- a. This is the first draft.
- b. A new relationship or variable is introduced, but not documented.
- c. The author(s) provide an excellent overview of the literature of a particular topic.
- d. An academic provides a balanced review of a new source book, textbook, or anthology or related.
- e. Author(s) uses non-random but purposive samples and provide central tendency significance testing or epidemiological measures. The findings are suitable to warrant publication so that others can test them with random samples.
- f. Theoretical articles that suggest that there is something to consider for research in the ensuing years. The entire above discussion end with the caveat of the limitations of the research.
- g. Meta-analysis and/or Meta Cognitive Analysis of others' research.
- h. Studies that mix nominal through ratio data in purposive samples and use multiple regression. A caveat must be made

about the lack of randomness and the possibility of multi-co linearity

- i. Given the wisdom of crowds, anecdotal data is gathered for short term hypothesis generating research.
- j. Case studies and data generated from participant observation can be very valuable to generate new hypotheses.
- k. Due to sample limitations or related, experiments cannot be double blind and cross-sectional analysis is limited by small numbers.

### Verification Findings: This means

- a. Basic or primitive terms have been sufficiently operationalized.
- b. A random sample is drawn in which statistical variation is 4% or less (N=600) (3%=1500) (1%= 5000) (All real numbers have been rounded.)
- c. Research is reported clearly. Protocols are faithful to best practices in science.
- d. Ratio data is collected and analyzed whenever possible. Level of confidence is 5% or less.
- e. Political pressure is avoided by independent funding. Bias should be diminished in the interpretation. If the paradigm is basic to pre-moderns, moderns or post moderns it should be stated.
- f. The finding should be vetted by peers who do not know the author(s) of the research.
- g. The research is then reviewed and researched by triangulation (at least 3 different methods are used.)

## Conclusion

For many, the above have a common understanding. However, this must be clearly stated again and again, because research has been tarnished by the inept and the

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