Women's Health Research at Yale

› FACTORING IN GENDER



# Making Sense of Research Reports in the Media

*Your guide for using public information to benefit your health*



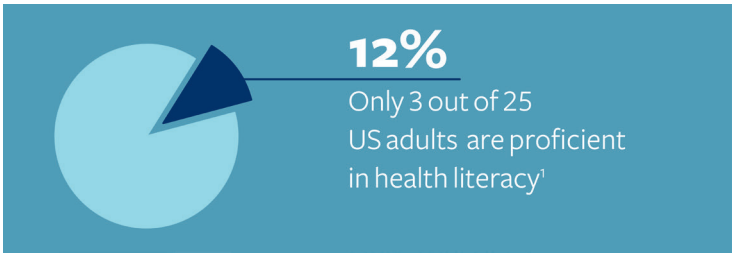
# As a consumer, it is critical to know which questions to ask when reading and evaluating a media report of a medical study.

Seemingly conflicting research results can cause frustration unless you can weigh the specific goals and merits of a study. Understanding the basic scientific elements can help you and your health care provider determine the study's relevance to your specific health situation.

What is the "real" value of research information after seeing confusing or seemingly contradictory health study findings in the media? The answers in this guide aim to assist you in evaluating mainstream reports of research to better understand their practical relevance. We hope this pamphlet assists you in recognizing the tremendous importance of carefully conducted health research and helps you make more informed decisions about your health.

## Why should I pay attention to new research results?

Knowledge is power. As researchers seek new scientific discoveries and medical advances, you can learn how to sort through the large volume of health reports in the media to improve communication with your health care provider and gain more control over your health.




## Why should I be careful when reading about research results in the media?

Media companies often perform a public service, but they are not public health agencies. They are mostly for-profit businesses that sometimes report on controversial information to draw an audience, particularly online, where advertisers pay by the click. This can lead to what is known as publication bias, in which studies with dramatic findings are reported at the expense of other, less controversial studies to create a distorted view of overall research results.

As economic pressure pushes news organizations to thin newsroom staffs, writers who are not experienced in the field or perhaps not even regular science writers might overstate study results or inadequately explain the underlying science.

## Why do research results in the press often seem confusing and even contradictory?

Science represents our best understanding of the world right now, but that understanding is constantly challenged by new data and developments in technology and methodology. New results that lead to revised recommendations reflect progress in our understanding of health conditions.

Some media reports include quotes from experts who offer differing views. This is not uncommon even within the scientific community but can lead to confusion if the report does not clarify the reasons for the disagreement.

## What do I need to understand about the nature of the scientific method?

### 1. STUDY METHOD

In experimental studies, participants are randomly assigned to different treatments so that differences in outcomes can be attributed to the particular treatment. In observational studies, scientists simply examine behaviors and conditions as they naturally occur. Observational studies are often a good first step, but their results cannot be considered as conclusive because only an experimental study controls factors that could also account for an observed difference. Gender, age, ethnicity, and cultural background are such factors that can be overlooked and skew results.

### 2. SAMPLE SIZE

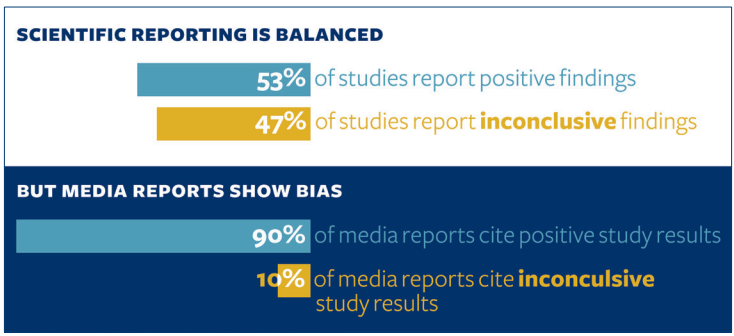
In general, the larger the sample size of the study population, the more reliable the results. In a small group of subjects, each individual's differences are magnified because they make up a larger proportion of the overall data. A larger group balances individual differences and produces a more representative sample that can be better applied to a wider general population and allow for analysis of subgroups by gender/sex, race, and ethnicity.

### 3. ANALYSIS OF GENDER DIFFERENCES

Every study focuses on a particular group of participants who all share certain characteristics, such as age or a particular health problem. For example, if a study is conducted with post-menopausal women between the ages of 55 and 65 who have been diagnosed with cardiovascular disease, the results can be generalized only to women who fit this profile. For anyone else, the results could be inaccurate.

For a long time, it was presumed that the results of health studies conducted with men could be summarily applied to women. However, **we now know that men and women differ in the prevalence, symptoms, and response to treatments for many health problems**. When reading a study report, it is important to see if women were included in the study and if there are any different results for women and men.

*Media Coverage of Hormone Therapy and Breast Cancer*[2]



## What questions should I ask when reading reports of medical research?

### SCIENTIFIC CREDIBILITY

Was the study published in a peer-reviewed scientific journal, ensuring validation of the research by diligent review and careful editing? The online database Ulrichsweb[3] allows you to search for the full name of a publication and displays a black-and-white striped referee's jersey next to peer-reviewed titles. You can also find a listing of the most popular peer-reviewed journals at EurekAlert![4]

### STUDY METHOD

Is the study experimental or observational?

### STUDY POPULATION

Does the report describe the characteristics of the study population? How large was the sample? Did the sample include women? Different races or ethnicities? Were the participants healthy? At what stage of life were the participants? Does the study population resemble me?

### DATA

Were the data analyzed by gender? Are there specific concerns for men or women? Does the report present a balanced perspective on what the data really mean?

### CONTEXT

What does the report tell me about other studies conducted in this area? Do these new results confirm or refute previous study results? What questions remain to be answered by further study?

### MEDIA CREDIBILITY

Where is this media report published? Does the journalist cite the source and author of the research, allowing me to reference the original study? Is this reporter or media outlet generally credible?

**72% of internet users** have looked online for health information in the last year.[5]

**Women are more likely** to use the internet to find health information.[6]

## Where can I find the answers to these questions?

Unfortunately, most mainstream media reports of scientific research do not include complete details on a study's design, analysis and context. However, most will cite the source publications, which often provide at least some of the pertinent information in an online abstract, even if you might need to pay for the full article. Libraries also might have access to online databases if they don't carry the journal. When in doubt, ask your health care provider.

## How can I relate research results to my personal health decisions?

Relating study results to practical health decisions is not as simple as it may appear. Study results are usually expressed in averages, and so the results for a given individual may not apply. Your personal and family history are significant factors to consider and must be safely reconciled with study results.

Additionally, deciding without your health care provider's input to stop certain medications suddenly due to a recent media report revealing medication risks may present more overall risk to your body than continuing a treatment about which there is a question. Often, your body has adjusted to the medication and needs time to readjust without it.

Understanding the science behind media reports of study results is an excellent way to be informed of medical advancements. The next step, however, is to discuss your thoughts and opinions with your health care provider to make decisions about treatment together.

**References and Resources:**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4. EurekAlert!: www.eurekalert.org/links.php?jrnl=A
5. Pew Research Center: http://www.pewinternet.org/fact-sheets/health-fact-sheet
6. Centers for Disease Control and Prevention: http://www.cdc.gov/nchs/data/databriefs/db66.htm



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