Research – A Pro/Con Perspective

Pro:

- **Research** has, for hundreds of years, been published as articles evaluated by other “peer reviewers” (other researchers), and published in refereed journals. Research is how we discover new facts, prove concepts, and construct our understanding of the world around us. News tells us what is happening. Research helps us understand why something is happening.

- **Your professors** – themselves researchers – have the highest respect for research. You will always please a professor when you include research from academic journals (scholarly publications) as part of your project, paper, or presentation.

- Research (also known as empirical study) comes in many different forms. Two major forms are quantitative research and qualitative research.

  - **Quantitative research measures and records things mathematically.** The results of this type of research are often reported in mathematical comparisons e.g. how large, how small, how many, how long, how quickly, etc. There are many forms of quantitative research. Databases such as PubMED and PsycINFO allow you to limit to specific types of quantitative research.

  - **Qualitative research focuses on human observation.** The results of this type of research are often reported in a more narrative, human-focused, format e.g. how people behaved, what they reported, what they said, etc. There are also many forms of qualitative research. The database PsycINFO allows you to limit to specific types of qualitative research or simply to qualitative research in general.

- **Lots of research.** It is estimated that there have been more than 50 million research articles published since 1665. More than one million research articles are now published every year. (See “Open Access: Greater Impact for Your Research” – University of Pittsburgh).
- **Open Access.** Though research journals are becoming increasing (and insanely) expensive due to inflated prices that publishers charge – researchers, universities and governments are fighting back and demanding that government funded research (and in some cases any research) be made publicly available after 6 months, or 1 year, or 2 years. The [PDF] and [HTML] links you see on Google Scholar often represent open access articles that can be viewed by the general public. (See the Open Access Explained video from Week 6).

**Con:**

- **Inflation and the rising cost of research journals.** Many publishers of research journals have been raising the cost of research journals by roughly 5% year – far above the average rate of inflation and well beyond the ability of universities to pay for these journals. As a result most universities have had to cancel important but expensive journals. For the fields of science, technology and medicine the average cost of a journal is now over $1000 a year. The average cost of chemistry journal is over $4000 per year. The chemistry journal Tetrahedron alone now costs over $40,000 per year. (See Open Access Explained Video from Week 6).

- **Publishers have monopolistic control of most of the world’s research.** The top five publishers in the world: Elsevier, Wiley, Springer, Taylor & Francis, and Sage control roughly 50% of all research. (See “Open Access: Greater Impact for Your Research” – University of Pittsburgh).

- **Universities produce a large proportion of the world’s research – but must buy it back from the publishers at very high prices.** University professors do research, serve as peer reviewers for other researchers, and serve as editors of research journals. Yet once the research is published in a research journal these same professors/researchers can lose the right to access the research. Universities are forced to pay publishers for the research that universities created – unless the articles and the journals provide “open access.” (See Open Access Explained Video video from Week 6).

- **Publication bias.** Publishers often print only the most “exciting” research results which can lead to an inaccurate picture of our world and how things actually work. [Seife, C. (2010). *Proofiness: The dark arts of mathematical deception.* New York: Viking. Available in Rod Library at UNI Stacks QA99 .S45 2010]
• **Research funding concerns.** Conducting research can be expensive and many researchers need to find government or corporate sponsors. In some fields, e.g. biomedical research, companies will fund research in hopes of proving their product is superior to other existing products. This can put pressure on researchers to reach conclusions that the companies like. If the companies like the results they may continue to fund additional research projects.

• **Research articles are often written in the language of a specific discipline.** In some cases the language of a discipline may be understood only by a small number of researchers practicing in this discipline. Understanding the analysis of research results may also require a strong understanding of statistics. While the abstract, introduction, and conclusion of many articles is more easily understood – these too may prove difficult to comprehend. **In many cases the articles reporting the results of research in scholarly journals will not be understood by the general public.** As many journals are very expensive most research articles are also not available to the general public. Thus, **there is a need for researchers or journalists to faithfully translate the findings of research into a language that can be understood by the general public and in a format that is affordable and widely available** (e.g. high quality news).