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## *How to read research articles*

College students who are majoring in the humanities rather than science or social science often find it intimidating to read articles which report empirical, quantitative research. This is understandable, since these articles are structured differently from novels or critical essays that, say, an English major is used to reading. Research articles are designed to be as short as possible; complicated methods and results are compressed into a few pages of summary and graphic displays such as bar graphs and tables. Students also find it contradictory that the researchers are trying to be objective, with all of their numbers and statistics, yet they claim that their results support a particular position or opinion, which does not seem objective. Students often have trouble seeing the forest (the overall structure of the article and its major points) for the trees (each number in a table; each of numerous *possible* explanations, while the author has in mind the best possible one throughout the discussion. This handout is intended to help you understand the structure of a research article, and to give you strategies for reading them that will make them easier to understand.

It is important to understand why research articles appear in publications: It is not just to burden college students with difficult reading assignments. The intended audience of a research article is the writer's professional peers: in our case, other people (usually professors or people who work at research institutes) who study language and gender. Researchers publish their work in order to let their peers know of new discoveries or new ways of looking at issues that the field studies.

I will use examples from various of our assigned readings to illustrate the typical features of research articles.

**Note: Reading this handout will help you structure your term paper well!**

### Thumbnail Overview

**Recommended sequence in reading research articles:**

***You should always take notes while you read, or at least use a highlighter for crucial details and ideas.***

- 1. Read concluding sections at the end of the article for summaries of the hypothesis, method, results, and significance of the study.**
- 2. Read the introductory section, looking out for hypotheses/research questions and a look-forward summary of what is to come.**
- 3. Skim methods and results sections, but postpone close reading until after you ...**
- 4. Read the opening paragraphs of the discussion/analysis, looking for summary of results/method.**
- 5. Read the methods and results sections closely; visualize the study and its results.**
- 6. Read the discussion/analysis section very closely.**

## Strategies for reading research articles

### First ...

The best thing to do when beginning to read a research article is to flip to the **end**. Look in the last few pages for subheadings or phrases along the lines of *Conclusions*, *In conclusion*, *To conclude* or language that hints of a *summary* of the preceding article. Read the paragraphs that follow such introductions. You may not understand all of what is said, but the conclusion is usually the place where the writer lays out the whole study in brief. The conclusion usually also serves to state how strongly the data support whatever hypothesis the researcher started out to study, so there will usually be some theory in the conclusion as well. A good conclusion is a thumbnail sketch of the whole article, with emphasis on how well or poorly the data that the researcher collected answers the research question or supports the researcher's hypothesis.

*Eisikovits' article ends with a section called 'Conclusions', by which she means, not the end of the article, but what we can conclude from her study--what her study suggests about the reasons for Australian adolescents' language behavior. She writes: "What all this would suggest is that for the girls the norms which they become increasingly aware of are in line with those of external social usage. [...] The boys, however, [...] appear to use non-standard forms to affirm their own masculinity and toughness and their working-class anti-establishment values" (p. 51). Her last paragraph begins "What we have then is very strong evidence for age and sex differences in the variety of Australian adolescent speech--differences which reflect different social and linguistic norms held by the two sex groups" (p. 52). (The ellipses in square brackets [...] indicates that portions of the original article have been cut out for this book. The editors of this anthology have shortened many of the articles.)*

Some research articles do not have this kind of conclusion. Some articles just end with the last points of the analysis or discussion of the research results. If you are faced with this kind of study, then, instead of reading the end first, start at the beginning.

### Then ...

The next thing to do is flip back to the **beginning** of the article and read the first section all the way through. Look for several kinds of information in this section:

- **Background:** The writer (or writers) will most often place their research in the context of previous work in the same area, as well as any current controversies in the field of study that are relevant to their topic. This is appropriate because the reader needs to know how to situate the article's report in the field of study. It is also often crucial, because many studies are intended to expand, add support to, or refute current accepted wisdom in the field. The introductory section of an article often discusses theoretical issues at some length. This can seem like a postponement of the job at hand (reporting the writer's research), but it is necessary to relate that work to other work in the field. In this section, you can expect to find references to other important publications that are relevant to the article's topic.

*Eisikovits begins her article by citing previous research by such scholars as Encell, McKenzie and Tebbutt, Shopen, Horvath, Wolfram and Fasold, etc. She does this in order to establish that there is a good basis in previous research for the question she is examining (Australian society has rigid sex divisions; sex divisions are reflected in language habits), while simultaneously pointing out gaps in the research which her study might fill: "we have little information about whether adolescent females behave like adults ... The identification of when--if at all--these perceptions and hence changes in linguistic behaviour become evident*

*is one of the goals of this chapter" (p. 42).*

- **Research question or hypothesis:** In the first section, the writer must state their reason for doing the research. People do research because something in their experience with the field of study and with its data (in this case, language) has piqued their curiosity--has raised a question that they want to answer. Sometimes they believe that they have observed language behavior that supports a popular or controversial idea in the field or in popular beliefs (for instance that men always interrupt women in order to assert their dominance, or that women gossip more than men, in order to build a secure position of acceptability by making other people look bad). They formulate a **research question** (a question that does not assert a claim or belief, but merely asks 'whether') or a **hypothesis** (a statement that asserts a claim or belief that the research is intended to either prove or disprove). A research question would be 'How often do people interrupt one another in conversation?' or 'What conversational purposes does interrupting serve?' or 'Does interruption correlate with gender, i.e., does one gender do more interrupting than another?' or 'Does the frequency of interruption vary according to whether a conversation group is of mixed gender or of one gender?' These clearly do not make a claim, but seek basic data that then might be used to formulate a claim or to explain interrupting behavior.

A hypothesis takes a position; it makes a claim: 'Men and women interrupt each other equally often, but for different purposes'. Or, 'Interruption varies with gender mix in a group: In one-gender groups, all participants interrupt equally, but in mixed groups, men interrupt women more than vice-versa'. Our readings have a mix of hypotheses vs. research questions.

*Eisikovits' study answers a research question rather than proving/disproving a hypothesis. She has two research questions. The first is stated indirectly: "we have little information about whether adolescent females behave like adults" (p. 42). She is suggesting that one thing her research will do is find out how adolescent females behave. Her second research question is clearly stated as such: "The identification of when--if at all--these perceptions and hence changes in linguistic behaviour become evident is one of the goals of this chapter" (p. 42).*

*O'Barr & Atkins have a clear statement of the claim they wish to support with their research: "It is the thesis of this study that so-called 'women's language' is in large part a language of powerlessness, a condition that can apply to men as well as women" (p.377). In other words, their hypothesis is that what determines some stereotypical features of women's language is not their gender, but their powerless position in society.*

- **Look forward:** In the first section of the article, besides giving background about the topic and citing other related work, the writer introduces the research that the article reports. A short description of the study is given, sometimes in just a sentence or two, sometimes at greater length. Sometimes, a very short report of the results of the study are given, along with a statement of how the results relate to the research question or hypothesis (they support it or they do not), and again, the relevance of these results to current issues in the field is stated.

*O'Barr & Atkins have a good look-forward paragraph right where these usually occur: at the end of the introduction section. "This paper proceeds as follows: first, it examines the phenomenon of 'women's language' in the institutional context of a court of law; second, it shows that the features of 'women's language' are not restricted to women and therefore suggests renaming the concept 'powerless' language due to its close association with persons having low social power and often relatively little previous experience in the courtroom setting; [...] and finally, it calls for a refinement of our studies to distinguish*

*powerless language features from others which may in fact be found primarily in women's speech" (p. 378).*

### Then ...

The two hardest parts of a research article are the description of **method** and **results**. These usually follow the introductory section. The reader has to use the information in these sections to visualize how the study went forward and what the findings were. These sections are usually short, but densely packed with information; the results section will contain numbers, percentages, reports of statistical significance. When you read them, do so slowly and build a clear picture in your mind of each step in the study as you read. Study tables, bar graphs, etc. until you have a clear picture of what they report.

If you have a great deal of difficulty understanding the methods/results, look for sentences or paragraphs that summarize the details in relatively straightforward prose. When reading the methods section (which describes the experiment), it is helpful to make some quick notes on a piece of paper as you read, or highlight the text. Consider the opening of Eisikovits' "Methodology" section:

*"The data for this study consist of more than fifty hours of tape-recorded conversation. The sample of informants was made up of twenty males and twenty females, equally divided into two age groups, a younger group in year 8 of secondary school, average age thirteen years eleven months and an older group in year 10, average age sixteen years one month." The second sentence here packs a lot of numerical information. Notes you might make while reading this:*

- 50 hrs conversation
- 20 girls, 20 boys
- 2 age groups: younger (age 14) and older (age 16)

*This is the exact information that I highlighted in the text as I was reading this article the first time. Having these notes to refer to while you read will be extremely helpful in understanding the results and discussion. Later, when you review this article, you can get a quick grasp of the study by looking at these notes.*

*Eisikovits' "Results" section also has handy summaries. Tables appear, showing the numerical results, including (at first) mysterious notation such as "N = 10" (meaning the number of girls/boys who produced the data) and "p > .001" (a figure that shows whether or not the data reach a level of statistical significance that indicates that they are sufficient to be taken seriously as evidence). It is better to read the prose under these tables **before** trying to figure out what they show. In Eisikovits, for example: "From this table it can be seen that males and females differ considerably in their use of these forms. Among the female speakers there is a significant decline in use with age ... " At your current stage of learning, you can assume that the authors' claims about results are accurate, or rely on your teacher's comments evaluating them. If you become expert in a field like this, you will need to develop the skills to make such assessments yourself (which is the reason that psychology and social-science students are often required to take statistics classes).*

### Lastly ...

Your last step in reading the article is to read the **discussion/analysis** section or sections and the concluding parts very carefully. The discussion/analysis is the meat of the article,

where all other parts are brought together: how the results relate to the research question/hypothesis as well as to previous research; here, the author attempts to explain the findings; also, this is where the significance of the study for the field as a whole is laid out. Therefore it is usually also the longest.

Your teacher should choose well-written articles (though sometimes, landmark articles or books are not so well-written, or are highly stylized). A good author puts summarizing information in logical places, for instance at the very beginning or at the very end of the discussion section. In some cases, the whole study is summarized.

*Eisikovits calls this section 'Discussion' and opens it with a summary of her results, given indirectly as 'why' questions: "The existence of such different patterns of usage of non-standard forms among the two sex groups poses an obvious problem: why should an increase in age bring about such different patterns of usage among male and female speakers? Why is it only the girls who decline in their use of such forms as they grow older whereas, if anything, the boys increase their usage of such forms?" (p. 47). Eisikovits is moving into the purpose of the discussion section, which is to propose reasons for the results, but notice how, in doing so, she also tells you the general nature of her findings: In her study, girls' usage of nonstandard forms decreased overall while boys' usage of them increased. Notice how well this correlates with the research question and purpose of her article as stated early in the article (see the example under "Research question or hypothesis" above.*

*O'Barr & Atkins give an excellent summary of their whole study on page 385, at the beginning of the section titled "Women's Language or Powerless Language"? They write "In the previous section, we presented data which indicate that the variation in [women's language] features may be related more to social powerlessness than to sex. We have presented both observational data and some statistics ... The speech patterns of three men and three women were examined. For each sex, the individuals varied from social statuses with relatively low power to more power ... " Thus they summarize their method as well as their results.*

Once you have located these summaries, you can go on to read the close detail of how the study results support or disprove a hypothesis, answer a research question, or generally advance the understanding of the topic. Here, of course, you also find application of theory to the results of the study -- the answer to the question "why are the data the way they are"?

## Bibliography

Eisikovits, Edina. 1998. "Girl-talk/Boy-talk: Sex differences in adolescent speech." In *Language and gender: A reader*, ed. Jennifer Coates, pp. 42-53. Oxford: Blackwell.

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