Research papers

types of scientific articles

Original or research paper / Primary

Experimental

Observational.

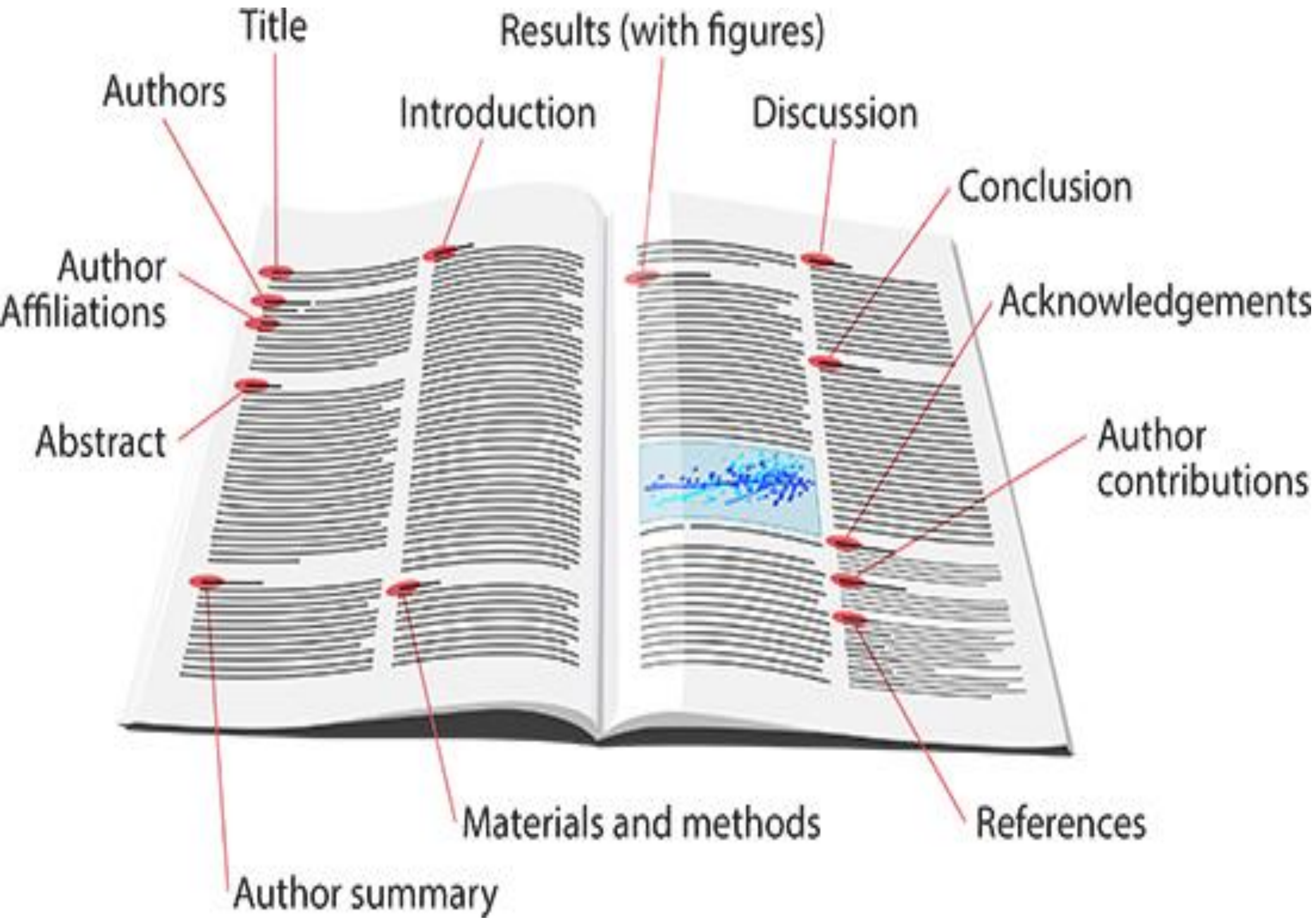
- most common type of articles
- divided into sections
- Format varies from journal to journal

Review paper / seondary

- ❑ narrative review. brood
- ❑Systematic review or meta- analysis. specific

Research note

- short and brief communication


Title
Results (with figures)
Authors
Introduction
Discussion
Conclusion
Author
Affiliations
Acknowledgements
Abstract
Author
contributions
Materials and methods
References
Author summary

Journal of Investigative Psychology and Offender Profiling
J. Investig. Psych. Offender Profil. **5**: 25–37 (2008)
Published online in Wiley InterScience (www.interscience.wiley.com). **DOI**: 10.1002/jip.76

Smarty-pants name

The School Shooting/Violent Video Game Link: Causal Relationship or Moral Panic?

Complex language

CHRISTOPHER J. FERGUSON*

Behavioral, Applied Sciences and Criminal Justice Department, Texas A&M International University, Laredo, TX, USA

Author has academic affiliations

Abstract

In the last 10 years, following the incidence of serious acts of school violence—particularly multiple homicides on school campuses—much attention has focused on the potential causal role of violent video game exposure. Some scholars have attempted to draw links between laboratory and correlational research on video game playing and school shooting incidents. This paper argues that such claims are faulty and fail to acknowledge the significant methodological and constructional divides between existing video game research and acts of serious aggression and violence. It is concluded that no significant relationship between violent video game exposure and school shooting incidents has been demonstrated in the existing scientific literature, and that data from real world violence call such a link into question. Copyright © 2008 John Wiley & Sons, Ltd.

Key words: computer games; violence; aggression; school violence; mass media

Divided into sections

INTRODUCTION

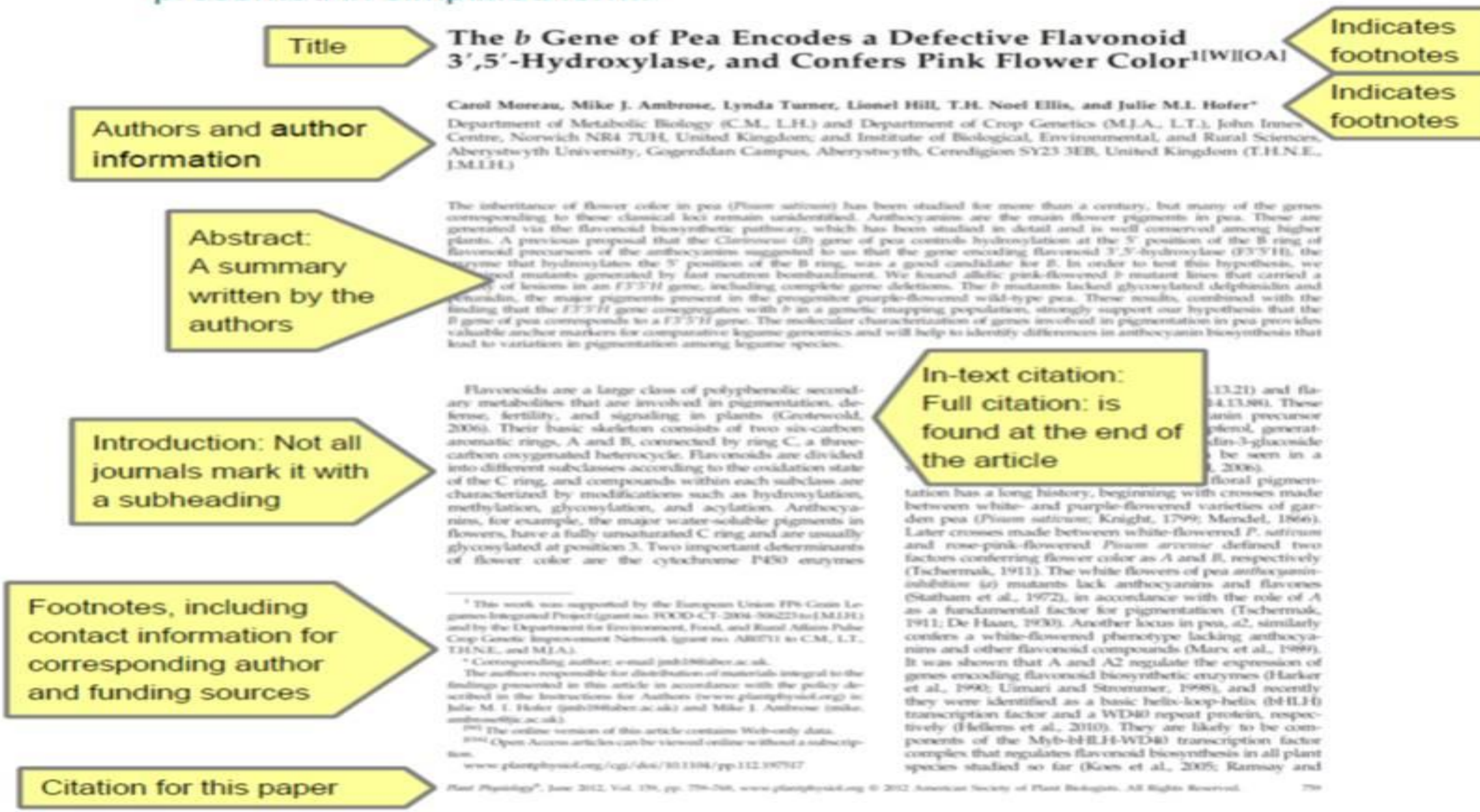
Following the April 2007 Virginia Tech massacre, in which Seung-Hui Cho killed 32 students and professors, considerable debate emerged regarding the impact of violent video games and other forms of violent media as a causal agent in such serious violent acts. Related to the Virginia Tech shooting, pundits such as the lawyer and anti-game activist Jack Thompson and Dr Phil McGraw ('Dr Phil') appeared in national US media outlets stating that violent games were a significant causal factor (McGraw, 2007; Thompson, 2007). As a considerable majority of young males play violent video games (Griffiths & Hunt, 1995; Olson *et al.*, 2007) suggesting that a young male school shooter may have played violent games is hardly as prescient as it may seem on the surface. Thus, it was something of a shock when investigators concluded that Cho had little to no exposure to violent video games (Virginia Tech Review Panel, 2007). Similarly, Sulejman Talovic (age 18), who killed five in a Utah mall on February 12, 2007, was found not to be in

*Correspondence to: Christopher J. Ferguson, Department of Behavioral, Applied Sciences and Criminal Justice, Texas A&M International University, Laredo, TX 78041, USA.
E-mail: CJFerguson1111@aol.com

Not short, 10-30 pages

Case study: Reading a Primary Research Article from *Plant Physiology*

This case study examines a recent article published in the journal *Plant Physiology*. The full article is appended to this PDF. Because of space constraints, only the major points from the paper are covered in the case study, and the biochemical pathway is presented in simplified form.



The first page of a typical article from *Plant Physiology*. (See text for more information about each section)

1.The abstract

(A) THE CONTENT

This is a summary or an overview of the whole report and it is easier to write after you have finished the whole report.

The information in the abstract typically answers the following questions and is ordered in the following sequence:

(1)What is the experiment about and why was it done? (introduction)

(2) How was the experiment done? (methods)

(3)What were the main results? (results)

(4)What were the main conclusions? (discussion and conclusion)

As you can see, the sequence of the questions follows the same order as the structure of the paper as a whole.

B: THE LANGUAGE

- typically about one paragraph (about 200 to 250 words) in length and include:
- Don’t list cited works in the abstract.
- avoiding technical jargon and unique acronyms.

B: THE LANGUAGE

- The verbs in the abstract are mainly in the past tense because they summarize what was done and found in this particular experiment.

- Some of the verbs are in the present tense . This tense is appropriate when you are interpreting the significance of your results and stating your conclusions.

The influence of gibberellic acid on the growth and development of two varieties of pea seedlings, dwarf (*Pisum sativum cv. Greenfeast*) and tall (*cv. Telephone*) was investigated. Weekly measurements of plant height and internode length and number showed that gibberellic acid promoted significant stem elongation in the dwarf plants, although the number of internodes remained unaffected. No change was recorded in tall pea plants. This *suggests* that gibberellic acid *is* necessary for the growth of tall pea plants and its absence *may account for* dwarfism in peas.

2-The Introduction

A: THE CONTENT

In general the information or the content of the introduction should answer the following 5 questions:

Question 1

What is the subject of your report? What is your experiment about?

Question 2

Why is the subject important? (optional in first year)

Question 3

What is the theory on this subject? What have other researchers found out about this subject?

Question 4

How does your experiment compare with previous experiments done in that area (is it going to confirm a hypothesis already stated, to apply a methodology to other subjects? etc.)

Question 5

What is the aim or objective of your experiment or what hypothesis(es) is/are being tested? What are you trying to find out?

B-THE LANGUAGE

There are 3 areas of language which you need to pay attention to, if you are to write a good introduction. They are:

- •
-

1st

keeping the focus on the most relevant information

(what you put in your sentence beginnings to develop your introduction),

2nd

- the language of certainty and usuality

3rd

- the choice of present or past tense

Gibberellic acid is a plant growth substance which is known to have certain, often dramatic, effects on the growth of plants (School of Biological Sciences,1994).
Gibberellins appear to affect almost all plant organs but their most spectacular effect is stem elongation (Low, 1975).
Stem elongation occurs when gibberellic acid is applied to plants which are genetic dwarfs and this makes these plants indistinguishable from the normal tall variety (Irvine and Freyre (1960).
However, stem elongation does not usually occur when gibberellic acid is applied to most normally tall plants (Keenton, 1980).
This experiment aimed to establish whether the addition of gibberellic acid had a similar effect on the growth of tall and dwarf pea plants.

2- The Methods

A: THE CONTENT

The information you provide should typically answer the following questions :

Question 1

- What materials did you use?

Question 2

- What methods did you use?

NB:Remember not to comment on your observations or measurements in the methods stage. You should do this in the results stage.

B- THE LANGUAGE

- Show how the focus is not on the person carrying out the experiment but on the things that you are using in your experiment by using

  PASSIVE VOICE.
- Use ‘action’ verbs in the PAST TENSE because they describe your activities in the laboratory, what you did and what you used.
- Use the Time phrases to order the sequence of events.

Methods

Two varieties of pea seeds, dwarf (Pisum sativum cv. Greenfeast) and tall (cv. Telephone) were planted and their growth was monitored over a period of 4 weeks. Two sets of dwarf seeds (an experimental and a control) and 2 sets of tall seeds were planted in separate pots. After the seeds had germinate (at the beginning of the second week), the experimental seedlings were treated with gibberellic acid in 70% ethanol (0.4 mg per ml of solution) and the controls were treated with 70% ethanol alone. Each seedling received one drop of the solution applied to the top leaf (growing tip). At the end of each week, the height of each seedling was recorded in cms.

3- The Results

A- THE CONTENT

Your results section provides information to answer the following question:

Your results section usually has

The question is

What did you find (your precise measurements) and/or what did you observe?

3 main stages:

1. introduce the results section and tables and/or graphs (optional)

2. present table(s) and/or graph(s)

3. summarise the results

How to summarize the results

To summarise the results answer the following questions:

1st

If you drew a graph, what did the curve show about the relationship between your variables?

2nd

How did the rate of reaction vary?

3rd

What did the controls show?

4th

What did the replicates show?

B- THE LANGUAGE

- Use (action verbs) in the past tense because they tell the reader what happened in your experiment.
- Use them with certainty (eg. grew , not appear to have grown). That is what you found in reality.
- If you have recorded the results in the form of tables or graphs, you must number them and give them a title.
- Introduce the results in a general way at the beginning of the section.
- Refer to your tables and figures while you are summarising the results.

RESULTS

The final measurements recorded at the end of the fourth week are shown in Table 1.

Table 1: The average height of seedlings(cm), their number of internodes and the average length of internodes(cm) for each treatment after 4 weeks.

Treatment	average height of seedlings (cm)	average number of internodes	average length of internodes (cm)
Dwarf control	8	5	1.75
Dwarf + GA	13	5	3.45
Tall control	22	6	4.6
Tall + GA	25	5	4.95

The results in Table 1 show that dwarf plants which were treated with gibberellic acid (GA) grew to almost twice the height of the controls (untreated dwarf plants). Their internode length almost doubled. When the Wilcoxon test was applied, these differences were statistically significant. However treated dwarf plants did not grow to the height of normal tall plants. The application of gibberellic acid to tall plants did not cause any significant differences in their growth

4. The Discussion (and Conclusion)

A: THE CONTENT

The information you put in the discussion should answer the following questions:

(1) Have you answered aims of your experiment (Can you accept of reject your hypothesis?)

(2) How do your results compare with those of previous researchers?

(3)Why did you get the results you got? You may have to explain inconsistent or unexpected results.

A: THE CONTENT

(4)What problems did you encounter in carrying out the experiment and how could you overcome these in future investigations?

(5)What is significant or important about your results? What are the implications of your results?

(6)What further areas of investigation, if any, can you suggest.

B. THE LANGUAGE

(1) use the linking words are important for connecting the ideas and information.
(2) Use the PRESENT tense to make general statements , the PAST tense refer to the results of this experiment .
(3) Be careful about giving reasons for unexpected results and explaining the importance or significance of the results.
(4) Make general recommendations about future experimental techniques or future research.

The results show that gibberellic acid has a marked effect on the growth of dwarf pea plants but little effect on the growth of tall pea plants. **THIS** is *largely* consistent with previous research findings (Low, 1975, Keenton, 1980). **However**, the dwarf plants in this experiment did not grow into normal 'tall' plants (Irvine and Freyre,1960), although they underwent significant stem elongation compared to untreated dwarf plants. **THIS** *may* be accounted for by the fact that all treated dwarf replicates did not show the same degree of stem elongation, some growing far more than others. **THIS** *suggests* that *some* experimental *error* was involved and it is *possible* that differences in the concentration of gibberellic acid added *may* have caused these variations. **More care needs to be taken** in the preparation and administration of treatment solutions in future experiments as well as **greater accuracy** in measurements.

SINCE gibberellic acid *appears* to stimulate growth in dwarf plants and have little or no effect on the growth of tall plants, it is *possible* to conclude that the absence of gibberellic acid in dwarf plants *may* be responsible for their dwarfism. **Further investigation needs to be carried out** into why dwarf plants are unable to produce gibberellic acid naturally.

Acknowledgments

This is a place to thank anyone who helped you complete your research. It can include colleagues, focus group participants, fellow researchers, mentors, or family members.

6- References

For each reference give the author's name, the year of publication, the full title of the book or article and the publication details.

The model below will help you in writing your list of references.

References

Irvine, J.E. and Freyre, R.H. (1960) Reversal of genetic dwarfism in *Trephrosia vogelii* by gibberellins. *Nature*. 185: 11.

Keenton, W.T. (1980) *Biological Science*. Norton and Co., New York.

Low, V.H.K. (1975) Role of gibberellins in root and shoot growth in *Gibberellins and Plant Growth*. ed. H.N. Krishnamoorthy. Wiley Eastern Ltd., New Delhi.

School of Biological Sciences (1994) *Biology 1 Laboratory Notes*. The University of Sydney, Sydney.

Appendices

- If you have information that is too dense for the paper itself, include it in an appendix. Appendices are helpful when you want to include supplementary material that is relevant but not integral to the paper itself.
- This includes information that the experts in the field will read. It has all the technical details that support your conclusions.

7- The Title

THE LANGUAGE

A good title is short and to the point. It tells the reader the purpose of your experiment or what you found.

Typically, a title is made up of a long and complex noun group. A noun group is a group of words that has the same function as a noun, it names or identifies a person, place or thing. Within a noun group, one word is usually central to the meaning of the group and this is called the HEAD. Other words can occur before and after the head to add to its meaning.

For example:

Article	Adjective	HEAD	Prepositional phrases (ie. preposition + noun)
The	Dramatic	Influence	of Gibberellins on Plant Growth

Usually, the noun group for the title is formed from the aim of your experiment.