

Scientific Writing Course
31 October to 4 November 2022

Course Overview and Objectives: Preparing to Write

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Why Write?

"Reading maketh a full man, conference a ready man and writing an exact man."

-- Francis Bacon

"The universal object of men of letters is reputation."

-- John Adams

"Authorship of any sort is a fantastic indulgence of the ego."

--John Kenneth Galbraith

Why Publish

- Ethical obligation to subjects and society
- To have the greatest public health and clinical impact
- To communicate findings among researchers
- Really understand your topic
- Documents productivity
- Justifies funding for research
- Documents intellectual property
- Creates reputations
- Builds careers

CROSSING THE LINE FROM ALCHEMY TO CHEMISTRY

You've turned lead into gold? Good.
Do it again, write a detailed description
of how you did it, and submit it to
peer review.



Science Magazine

Sections of a research paper

- Title page
 - Long title
 - Short (running) title
 - Authors
 - Affiliations
 - Correspondence
- Abstract
- Key words
- *Introduction*
- *Methods*
- *Results*
- *Discussion*
- Acknowledgements
- References
- Tables
- Figures

Course Objectives

By the end of the course, you will have:



A complete draft of paper:

<3000 words, ~3 tables, 1-2 figures (if applicable)



A template for writing future research papers



Revising skills for telling a clear, concise and comprehensible story that will be understandable to an interdisciplinary readership



The experience of peer review

Additional Course Activities

- Every day (and night):
 - One-on-one work with advisors/instructors
 - Team writing
 - Individual writing & revising

Preparing to Write

- Get organized
- The best papers are hinged on a single main finding
 - Figure out which finding(s) you want to present in this paper
 - Avoid saying everything, too much, too dense - other papers for other findings
- Know the literature—be a scholar

Preparing to Write

Review the “Instructions to Authors”

Typical format

Length guidelines

Use of abbreviations

Reference style

Specifications for figures and tables

Preparing to Write

Review published articles in the journal.

Perhaps get a style manual—for example:

- AMA Manual of Style*
- Scientific Style and Format
- Publication Manual of the American Psychological Association

Preparing to Write



Make an outline or plan



Organize your thoughts
on paper.



Decide on your figures
and tables.



Establish the structure
and sequence of the
paper



In the outline...

Include sufficient detail, major headings:

- Introduction

- Methods (subheadings too)

- Results (subheadings too)

- Discussion

Progress from general to more specific

Keep manuscript together in one file

Example of an Outline

I. Introduction

- A. Men who have sex with men (MSM) exist in all countries and cultures
- B. MSM are severely affected by HIV/AIDS
 - 1. Prior research in developing world has focused mostly on Brazil and Thailand
 - 2. More recent studies were conducted in India
- C. However, almost nothing is known about MSM in Africa
- D. We implemented a survey of MSM in Uganda to gauge their level of risk for HIV

Two systems for getting articles written

(Choose either one--just get the job done!)

System 1

Three tables and 1-2 figures

- Identify the single finding that the paper hinges on

Results: follow tables and figure

- Subjects, univariate main outcome
- Bivariate, associations with main outcome
- Multivariate
- Elaborate single most important finding
- Sub-analysis of important groups and potential biases

System 1 cont'd

3. Methods

- Matches how you got Results (no more, no less)

4. Discussion

- Single main finding clearly stated
- Relevant other findings, confirmation of other studies, enhancing causal inference
- Surprising, contradictory, unexpected findings
- Limitations
- Public health implications (e.g., HIV prevention or care)

System 1 cont'd

5. Introduction

- Now you know where everything is heading
- Start with the general issue (HIV epidemiology, prevention, care in Africa, Uganda)
- Focus next on the specific issue (related to single main finding)
- What is/are the gap(s) in knowledge in this area?
- What you did to fill void

6. References

- Ensure updated—know literature, cite recent papers

System 1 cont'd

7. Title

- Title should reflect single main finding, or main point of study

8. Abstract

- Do last, falls into place

System 2

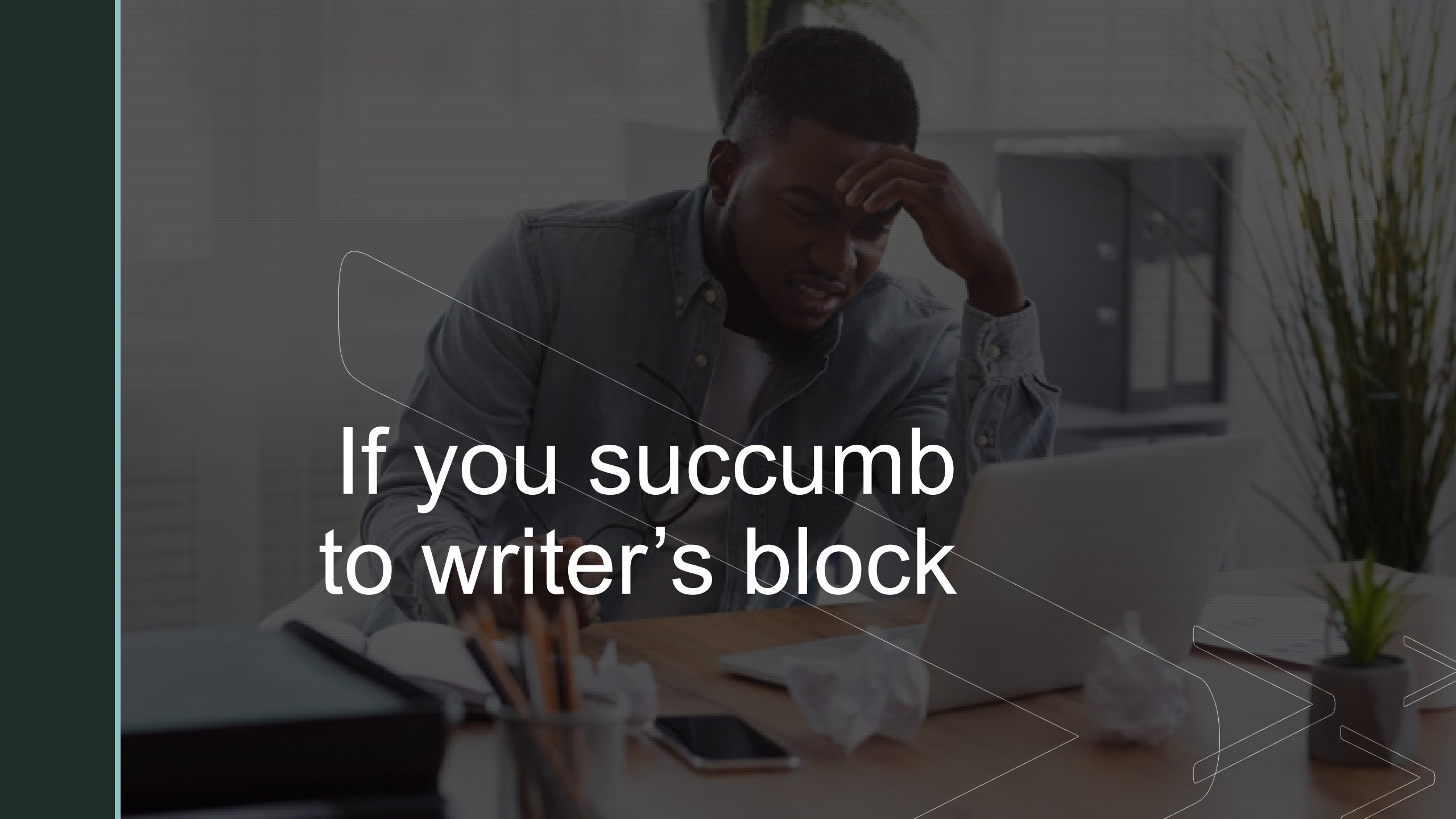
Title and Introduction first

- Use proposal title and background
- Use this system if time is needed to digest literature & to see single most important finding

Methods early on

- Already known
- Do if still awaiting analyses

Results, table and figures, discussion

A man with short dark hair, wearing a denim shirt, sits at a wooden desk in a dimly lit office. He has his right hand pressed against his forehead, looking down with a frustrated expression. On the desk in front of him is an open laptop, a pen holder with several pens, a smartphone, and some crumpled paper. In the background, there are office shelves and a potted plant. The overall mood is one of creative struggle.

If you succumb
to writer's block

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Work on

Only work on a topic that you are interested in

Start

Just start.

- Start filling in easy pieces
- Don't worry how it looks at first

Stay

Stay here, no e-mail, no cell phones

Write

Write incrementally, by sentence, by paragraph, by section

The “elevator test”

Class participation:

- You get into the elevator with your boss. She asks: “What did you find in that research study you did?”
- You have two minutes before she gets off on her floor.
- Explain the single most important finding of your study in two minutes.

