

# Creating and sharing aphasia-friendly versions of scientific writing

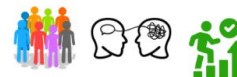
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Aphasia Institute  
Master Class

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## Abstract / Summary



- Aphasia Groups help people with aphasia





- In Tennessee, we have had an Aphasia Group for a long time



- Here, we share:

- How our group works 
- What people like about it 

- We want to:

- Teach people about Aphasia Groups 
- Help other groups get started 

# Learning Objectives

- 1 Discuss** the importance of creating research materials that are accessible to individuals with aphasia and their loved ones
- 2 Demonstrate** how to create aphasia-friendly versions of scientific manuscripts, both “by hand” and with the aid of a prototype AI-based tool, Article Friend, while critically evaluating the benefits and limitations of such tools
- 3 Describe** paths forward for how aphasia-friendly research summaries can be successfully implemented in research, clinical, and other settings for knowledge exchange and advocacy

# Introductions



**Anna Kasdan, PhD**



**Deborah Levy, PhD**

# Aphasia-friendly research summaries



PERSPECTIVES 

SIG 2

Tutorial

## A Practical Guide to Translating Scientific Publications Into Aphasia-Friendly Summaries

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# How we got started on this line of work

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- Aphasia Group of Middle Tennessee
  - Aphasia-friendly, supported communication practices in the community group setting were not being used in the research environment
- Individuals with aphasia deserve to be able to access and feel empowered to understand the research that is for and about them
- Received positive feedback from group members on our accessible *Perspectives* paper published in 2022

# People with aphasia want to know about research on aphasia

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- Individuals living with aphasia and their loved ones want to be involved in research and have access to information (Finch et al., 2023; Dalemans et al., 2009; Rose et al., 2010)
- ***But, there is not a lot of access to it***
- Research in aphasiology—which has a 150+ year history—is largely not accessible to individuals with aphasia and their loved ones
  - scientific jargon/lack of accessible language
  - “researcher” and academic platforms that are difficult to navigate
  - paywalls

# How we envision aphasia-friendly research

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- Accessible version of traditional scientific manuscripts
- Modifications to support understanding in people with aphasia include:
  - simplified syntax and vocabulary
  - use of keywords
  - supportive graphics and icons
  - large and standard font
  - increased white space on the page

## Traditional scientific version

## Aphasia-friendly version

Levy, Kasdan, et al., 2022. *Perspect ASHA Spec. Interest Groups.*

### ABSTRACT

**Purpose:** Community aphasia groups serve an important purpose in enhancing the quality of life and psychosocial well-being of individuals with chronic aphasia. Here, we describe the Aphasia Group of Middle Tennessee, a community aphasia group with a 17-year (and continuing) history, housed within Vanderbilt University Medical Center in Nashville, Tennessee.

**Method:** We describe in detail the history, philosophy, design, curriculum, and facilitation model of this group. We also present both quantitative and qualitative outcomes from group members and their loved ones.

**Results:** Group members and their loved ones alike indicated highly positive assessments of the format and value of the Aphasia Group of Middle Tennessee.

**Conclusion:** By characterizing in detail the successful Aphasia Group of Middle Tennessee, we hope this can serve as a model for clinicians interested in starting their own community aphasia groups, in addition to reaching individuals living with chronic aphasia and their loved ones through the accessible and aphasia-friendly materials provided with this clinical focus article.

**Supplemental Material:** <https://doi.org/10.23641/asha.20520783>

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Levy et al., 2024. *Brain Communications.*

Individuals with post-stroke aphasia tend to recover their language to some extent; however, it remains challenging to reliably predict the nature and extent of recovery that will occur in the long term. The aim of this study was to quantitatively predict language outcomes in the first year of recovery from aphasia across multiple domains of language and at multiple timepoints post-stroke. We recruited 217 patients with aphasia following acute left hemisphere ischaemic or haemorrhagic stroke and evaluated their speech and language function using the Quick Aphasia Battery acutely and then acquired longitudinal follow-up data at up to three timepoints post-stroke: 1 month ( $n = 102$ ), 3 months ( $n = 98$ ) and 1 year ( $n = 74$ ). We used support vector regression to predict language outcomes at each timepoint using acute clinical imaging data, demographic variables and initial aphasia severity as input. We found that ~60% of the variance in long-term (1 year) aphasia severity could be predicted using these models, with detailed information about lesion location importantly contributing to these predictions. Predictions at the 1- and 3-month timepoints were somewhat less accurate based on lesion location alone, but reached comparable accuracy to predictions at the 1-year timepoint when initial aphasia severity was included in the models. Specific subdomains of language besides overall severity were predicted with varying but often similar degrees of accuracy. Our findings demonstrate the feasibility of using support vector regression models with leave-one-out cross-validation to make personalized predictions about long-term recovery from aphasia and provide a valuable neuroanatomical baseline upon which to build future models incorporating information beyond neuroanatomical and demographic predictors.

### Abstract / Summary

- Aphasia is a **problem** with language that can happen after stroke



- Language usually **gets better**, but we can't always **predict how much**



- We looked at a **big group** of people with aphasia, their brains, and their language



- We used **math** to try and **predict language** across the first year after stroke



- This math did a **pretty good job** making predictions (about 60% correct!)



- We **hope** that more math like this will **help** doctors, therapists, researchers, and people with aphasia have **clearer expectations** about aphasia recovery

# Key questions to answer

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1. Why did the authors do this research in the first place?
2. What did the authors do?
3. What did the authors find?
4. Why are the findings important for individuals with aphasia and their loved ones?

# A practical guide for how to do this

## *Step-by-step tutorial in 8 simple parts*

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1. Plain language
2. Aphasia-friendly formatting
3. Supportive icons and images
4. (Slide) application choice
5. Document setup
6. Manuscript sections
7. Document review
8. Stakeholder feedback

Flesch-Kincaid calculator  
Large font w ample white space  
Wikimedia Commons; Noun Project  
Google Slides (free)  
Format as 8.5 x 11  
Abstract, Main Text, Conclusions  
Bolded keywords should stand alone  
Feedback prior to publication

# A future direction: Empirical testing

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- Survey study about which aspects of aphasia-friendly formatting:
  - best support reading comprehension
  - are most preferred by people with aphasia
- Vary parameters of aphasia-friendly formatting including:
  - use of simplified language
  - bolding of key words
  - inclusion of icons
  - inclusion of photographs

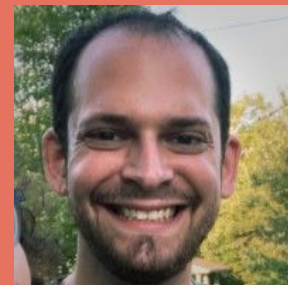
*Special thanks to Princeton's AI Lab Seed Grant!*

PI: D.F. Levy; 2025-2026



**AI at Princeton**

# A prototype tool: Article Friend!



Isaac Pedisich, MS

- Free, online tool that automatically generates aphasia-friendly abstracts with the aid of the large language model ChatGPT
- Meant to “jump start” the process of creating accessible summaries; not to be used as a standalone tool
- Article Friend is designed for individuals with content expertise, and *not* for the general public
- This tool is being refined and is *still in development*

<http://www.article-friend.com>

Demo



Demo

# Future directions for Article Friend

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- Improve icon generation to best support comprehension for people with aphasia
- Expand beyond abstracts to full-length article summaries
- Incorporate consumer feedback
- Design specific supports for different levels of aphasia severity

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**AI at Princeton**

# Benefits and limitations of using Article Friend

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- **Benefits**

- efficient and fast
- scalable for creating multiple summaries
- educational tool

- **Limitations and cautions**

- incorrect or hallucinated content
- sometimes irrelevant icon selection
- researcher reliance on tool in lieu of learning aphasia-friendly communication practices

# Implementation: how to get summaries to the shareholders

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- Post to National Aphasia Association and/or other patient-facing organization pages
- Display in waiting and clinic rooms of research-affiliated institutions
- Provide directly to people who participated in the research
- Support people with aphasia participating in advocacy efforts

# National Aphasia Association (NAA)

## Latest Research Highlights



Recovery and the Brain



Aphasia Groups



Understanding Language



Reading and Writing



Technology and Aphasia



Primary Progressive Aphasia



Aphasia Therapies and  
Treatments

<https://aphasia.org/latest-research-results/>

Share your thoughts in the chat box

Are these types of research summaries something you would envision using with your patients? Would they be interested? What is missing?

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# Thank You and Questions Welcome!

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