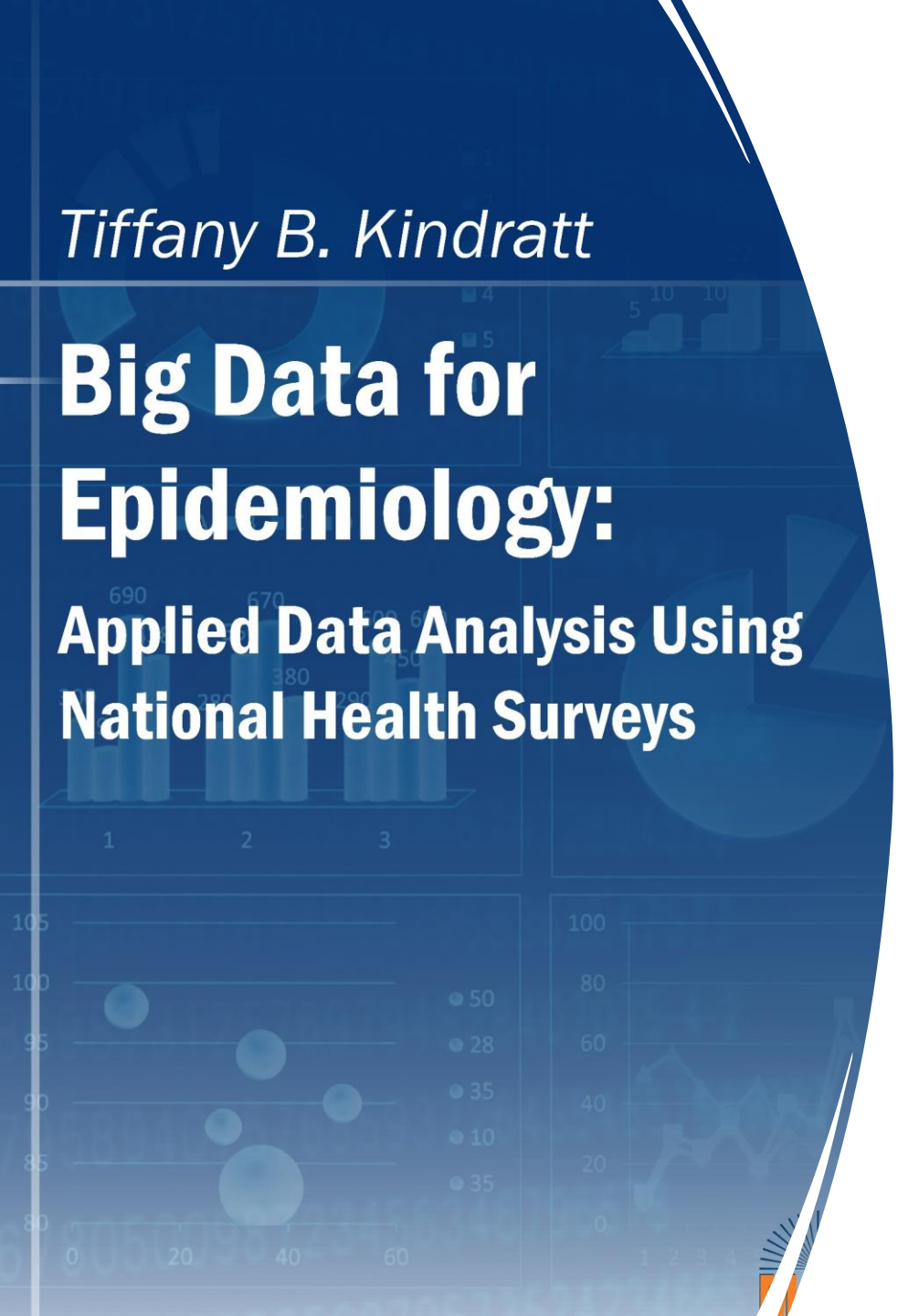


Big Data for Epidemiology: Applied Data Analysis using National Health Surveys

Chapter 11: Dissemination

Part 1 Presentations

Tiffany B. Kindratt, PhD, MPH

Chapter 11 Outline

- **11.1 Introduction**
- **11.2 Abstracts**
- **11.3 Presentations**
- 11.4 Manuscripts
- 11.5 Writing Tips and Tricks
- 11.6 Summary
- 11.7 References

11.1 Introduction

- Reporting and disseminating results is the final step in research process

- Chapter includes details on how to disseminate results by abstracts, presentations, and original research manuscripts based on previous published curriculum models

- Emphasis on studies using secondary data from national health surveys (Dehaven et al., 2011; Kindratt, 2020)

11.2 Abstracts

- Brief summaries of research projects
  - Preliminary research
  - Completed research
- Published at beginning of research manuscripts
- Submitted to professional organizations for scientific meetings
- Format and word count varies by dissemination source
  - 150-350 words
  - Unstructured or structured (Introduction, Methods, Results, and Discussion – IMRAD)

11.2 Abstracts

- Abstracts using national health surveys/complex sample designs
  - Include data source
    - National Health Interview Survey
    - Medical Expenditure Panel Survey
    - Health Information National Trends Survey
    - Behavioral Risk Factor Surveillance System
    - National Health and Nutrition Examination Survey
    - Linked data sources
  - Years of data included in sample

Table 11.1: Sample abstract requirements for professional meetings accepting abstracts for research using secondary data from national health surveys for presentations

	Academy Health	American Public Health Association	Gerontological Society of America
Word limit	500	250	250
Headings	Research Objective Study Design Population Studied Principal Findings Conclusions Implications for Policy or Practice	Background Methods Results Conclusions	None
Additional Requirements	None	At least 1 learning objective	At least 1 learning objective

11.2 Abstracts

- Published on the organizations' website as part of scientific program

https://apha.confex.com/apha/2021/meetingapp.cgi/Paper/509779

11.2 Abstracts

- Published in supplementary journals issues

https://doi.org/10.1093/geroni/igab046.289

Table 11.2 Examples of abstract publications after presentation at professional meetings

Conference	Authors & Year	Title	Journal & Website
2021 Gerontological Society of America Annual Scientific Meeting	(Kindratt et al., 2021)	ADRD Caregiving Experiences and Health by Race, Ethnicity and Care Recipient Geographic Context	Innovation in Aging https://doi.org/10.1093/geroni/igab046.3552
2020 Academy Health Annual Research Meeting	(Kindratt et al., 2020)	Cognitive disability among Arab Americans by nativity status: lack of evidence for the healthy migrant effect	Health Services Research https://doi.org/10.1111/1475-6773.13352
2019 Gerontological Society of America Annual Scientific Meeting	(Dallo & Kindratt, 2019)	The epidemiology of Alzheimer's disease and related dementias among Arab Americans.	Innovation in Aging https://doi.org/10.1093/geroni/igz038.1731
2018 American Academy of Physician Assistants Conference	(Weerasinghe et al., 2018)	Analyzing long-acting reversible contraceptive access for adolescents.	Journal of the American Academy of Physician Assistants https://doi.org/10.1097/01.JAA.0000549516.90643.72
2018 Food & Nutrition Conference & Expo	(Xiao et al., 2018)	Teaching mobile health technology.	Journal of the Academy of Nutrition and Dietetics https://doi.org/10.1016/j.jand.2018.06.138
2014 American Geriatrics Society Annual Scientific Meeting	(Silva et al., 2014)	Identification and intervention of potentially inappropriate medication that meets the Beers criteria at the Parkland Family Medicine Geriatric Clinic.	Journal of the American Geriatrics Society https://agsjournals.onlinelibrary.wiley.com/toc/15325415/2014/62/s1

11.3 Presentations

- Poster or oral/platform, virtual or in-person
- Allows researchers to:
  - Obtain feedback and make modifications prior to publication
  - Network and learn about similar research studies not published
- Brief overview of poster and oral presentations with examples provided
- Additional details provided on impact of the COVID-19 pandemic on presentations at professional scientific meetings

11.3.1 Poster Presentations

- Used at professional meetings in the US since the 1970s
- Useful for students to present research findings in a way that is less stressful than oral presentation
- Created with Microsoft PowerPoint slide
- Most posters are large (3ft x 4ft)
  - Landscape formats
  - Vertical formats

Figure 11.1. Landscape poster example from 2021 Academy Health Annual Research Meeting

Disparities in cognitive limitations with and without diabetes among foreign-born Arab Americans compared to other racial and ethnic groups

Tiffany B. Kindratt,[1] Florence J. Dallo,[2] Laura B. Zahodne,[3] Kristine Ajrouch[3,4]
[1]The University of Texas at Arlington, [2]Oakland University, [3]University of Michigan, [4]Eastern Michigan University

AcademyHealth ANNUAL RESEARCH MEETING

BACKGROUND

- 37% of older adults (>65 years) with Alzheimer's disease and related dementias (ADRD) also have diabetes
- Increased risk of ADRD among adults with diabetes
  - Increasing estimates of ADRD with diabetes represents a serious barrier for patients to adhere to recommended standards of care
- Limited research on cognitive limitations (as indicator for ADRD) with diabetes, particularly among US- and foreign-born racial and ethnic subgroups, particularly Arab Americans

RESEARCH OBJECTIVE

- To describe the age- and sex-adjusted prevalence of cognitive limitations with and without diabetes by race, ethnicity and nativity status among US-born non-Hispanic white and foreign-born non-Hispanic white, non-Hispanic black, Hispanic, Asian and Arab Americans
- To describe associations between race, ethnicity and nativity status and the presence of cognitive limitations with and without diabetes before and after controlling for covariates

POPULATION STUDIED

- **Sample**: US- and foreign-born adults ages 45 and older
- **Independent variable**: Race, ethnicity and nativity status (US-born Non-Hispanic white and foreign-born non-Hispanic white, black, Hispanic, Asian and Arab Americans
- **Dependent variables:** Cognitive limitation measured based on "yes" responses to:
  - "experience confusion or memory loss"
  - "have problems making decisions to the point that it interferes with daily activities"
  - "require supervisions for their own safety"
- Diabetes measured based on "yes" responses to whether a doctor ever told participant he/she has diabetes
- Age and sex-adjusted prevalence estimates, and multivariable logistic regression models calculated

RESULTS

Table 1: Sample Distribution

	Age 45+ *N*	Age 45+ Weighted *N*
US-born		
Non-Hispanic white	58,808	43,165,032
Foreign-born		
Non-Hispanic white	2,586	1,979,529
Non-Hispanic black	1,826	647,661
Hispanic	14,127	4,030,332
Asian	5,298	2,291,401
Arab American	322	234,757
Total	**106,005**	**60,316,525**

Figure 1: Age and sex-adjusted prevalence (%) of cognitive limitations with and without diabetes among US adults ages ≥45 years

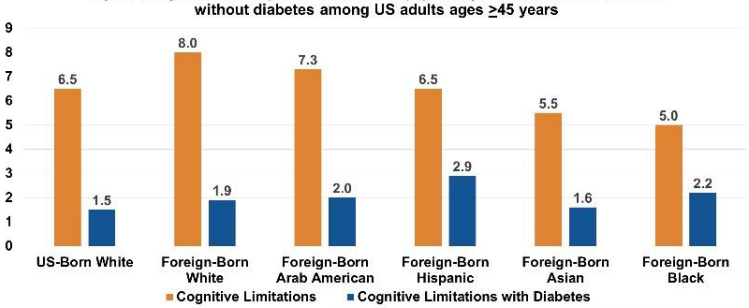


Table 2: Crude and adjusted associations between race, ethnicity, and nativity status and cognitive limitations only and cognitive limitations with diabetes

	Model 1 *Crude*	Model 2 *+Age, sex, SES*	Model 3 *+Health insurance*	Model 4 *+chronic disease & smoking*
Cognitive limitation				
US-born				
Non-Hispanic white	**1.00**	**1.00**	**1.00**	**1.00**
Foreign-born				
Non-Hispanic white	1.30 (1.09, 1.54)	1.23 (1.01, 1.49)	1.16 (0.96, 1.41)	1.23 (0.99, 1.51)
Non-Hispanic black	0.66 (0.49, 0.88)	0.57 (0.42, 0.76)	0.53 (0.39, 0.71)	0.57 (0.42, 0.78)
Hispanic	0.88 (0.79, 0.98)	0.67 (0.59, 0.76)	0.63 (0.55, 0.71)	0.60 (0.53, 0.69)
Asian	0.76 (0.66, 0.92)	0.93 (0.77, 1.11)	0.84 (0.70, 1.00)	0.95 (0.78, 1.15)
Arab American	1.06 (0.63, 1.76)	1.16 (0.75, 1.81)	1.01 (0.63, 1.62)	0.99 (0.59, 1.66)
Cognitive limitation with diabetes				
US-born				
Non-Hispanic white	1.00	1.00	1.00	1.00
Foreign-born				
Non-Hispanic white	1.28 (0.91, 1.81)	1.13 (0.77, 1.66)	1.05 (0.71, 1.54)	1.15 (0.77, 1.71)
Non-Hispanic black	1.22 (0.83, 1.78)	1.33 (0.89, 1.98)	1.22 (0.82, 1.83)	1.35 (0.88, 2.07)
Hispanic	1.62 (1.38, 1.89)	1.23 (1.01, 1.50)	1.14 (0.94, 1.39)	1.16 (0.95, 1.43)
Asian	0.95 (0.73, 1.23)	1.09 (0.83, 1.44)	0.97 (0.73, 1.28)	1.13 (0.85, 1.51)
Arab American	1.20 (0.50, 2.84)	1.34 (0.52, 3.48)	1.16 (0.44, 3.00)	0.84 (0.30, 2.37)

Contact: Tiffany.Kindratt@uta.edu

KEY FINDINGS

- Foreign-born Arab American and non-Hispanic white adults have higher estimates of cognitive limitations with and without diabetes than US-born non-Hispanic white adults
- Among foreign-born adults, non-Hispanic blacks had the lowest prevalence of cognitive limitations and Asians had the lowest prevalence of cognitive limitations with diabetes
- Results among Arab Americans and foreign-born non-Hispanic whites are not consistent with the "healthy migrant effect" hypothesis – that foreign-born individuals are healthier than US-born counterparts

IMPLICATIONS FOR POLICY

- The US federal government classifies Arab Americans as members of the non-Hispanic white race, which limits the ability to examine health disparities among this population
- Policy changes are needed to include an ethnic identifier for Arab Americans as part of federal minimum reporting standards so that resources/funding can be more appropriately allocated

ACKNOWLEDGMENTS

- Funded by the Michigan Center for Contextual Factors in Alzheimer's Disease (MCCFAD) P30AG05930001, National Institute on Aging
- Research was conducted at the Dallas-Fort Worth Federal Statistical Research Data Center (DFW FSRDC)

Figure 11.2. Vertical poster example from 2012 Association for the Study of Medical Education (ASME) Conference in Brighton, England

brighton and sussex medical school
postgraduate medicine

'Don't be scared'
Demystifying statistics in Postgraduate Medicine

T Billmeier, A Raza, J Anderson, DJR Evans
Institute of Postgraduate Medicine, Brighton & Sussex Medical School, Brighton, United Kingdom

Introduction

- Statistics can be a frightening concept in postgraduate medical education
- Research has shown that students have anxiety about learning statistics
- Several tools have been developed to measure these learning barriers
- However, there remains a gap in the literature on whether these factors play a role in postgraduate medicine

Purpose & Objectives

Purpose: To demystify medical statistics by evaluating our postgraduate curriculum

Evaluation Aims: To asses:

1. pre- and post-knowledge and anxiety of basic statistics in a Research Methods and Critical Appraisal module;
2. pre- and post-knowledge of advanced statistics in an Essential Statistics for Medical Research module;
3. student feedback; and to
4. develop workshops to fill the gaps in our curriculum.

Methods

- Study Design: Quasi-experimental
- Setting & Intervention: Didactic teaching and statistical analysis with SPSS in two Postgraduate Medicine modules in Spring 2012
- Subjects: Postgraduate Medicine students in Research Methods and Critical Appraisal and Essential Statistics for Medical Research modules
- Measures:
  Basic Statistics Anxiety in Research Methods and Critical Appraisal Module - 4 items on 4-point Likert scale from (1=Not anxious to 4=Very anxious)

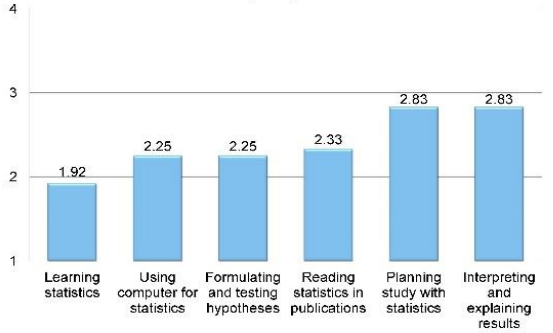
  Perceived Knowledge of Basic Statistics in Research Methods and Critical Appraisal Module - 8 items on a 4-point Likert scale from (1=Strongly disagree to 4=Strongly agree)

  Perceived Knowledge of Advanced Statistics in Essential Statistics for Medical Research – 10 items on a 5-point Likert scale from (1=Strongly disagree to 5=Strongly agree)

  Feedback – Open-ended responses in both modules

Results

Figure 1: Pre-Course Basic Statistics Anxiety in Research Methods and Critical Appraisal Module (N=12)*



*Mean scores from 1=Not anxious to 4=Very anxious
1 measurement, pre-course anxiety only*

Table 1: Comparison of pre and post-course basic and advanced statistical knowledge (N=18)*

	Pre-test	Post-test	P-value
Basic Statistics Knowledge in Research Methods and Critical Appraisal Module	17.3 (6.58)	24.4 (3.70)	.041
Advanced Statistics Knowledge in Essential Statistics for Medical Research	24.0 (8.20)	38.2 (4.58)	.027

*Mean (SD), Wilcoxon signed-rank test
2 measurements, increase in score shows increase in knowledge*

Student Feedback
What did you like best?
"Well-paced, examples helpful"
"Going through our (research) question"
What did you like least?
"Still not sure I can do the various calculations myself"
"Too much information, should be done over two days"
How do you think we could improve this lecture?
"More examples to go with each test"

Discussion

- We found that our students have a slight to moderate level of anxiety towards learning basic statistics
- Students in both courses showed significant improvement in perceived statistical knowledge
- Students in both courses felt more examples and more time would improve the courses
- Results from this study will be used to enhance statistics teaching for upcoming workshops in Autumn/Winter 2012-13

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11.3.1 Poster Presentations

Benefits	Limitations
• Reach a larger audience • May be easier to engage in conversation and network with professional contacts • Allow the reader to view multiple points of entry • Condensed versioned of paper or “illustrated” abstract	• Can be cluttered and “busy” • Not enough space for all results • Project dissemination may end here, particularly among students

11.3.1 Poster Presentations

- Include all IMRAD sections
- Include acknowledgment of the funding source (if applicable)
- Include contact information
- Additional tips for creating posters:
  - Less text the better
  - Use specific title related to the research aim or title that tries to catch the audience's attention
  - Use bright colors
  - Use pictures to portray a specific intervention or population of interest (students or community members)
    - Get a photo release if you use pictures

Figure 11.3. Poster example using pictures of student and community member participants

Parent-Provider Literacy Communication: Training Future Primary Care Providers while Enhancing Pediatric Literacy among Homeless Women and their Children in Dallas, TX

Tiffany Kindratt, MPH, Patti Pagels, MPAS, PA-C, Brittany Bernard, MPAS, PA-C, Jade Webb, MPAS, PA-C

UT Southwestern Medical Center
Department of Physician Assistant Studies

Background

- Reach Out and Read promotes early literacy and school readiness by incorporating book delivery and anticipatory guidance into well-child visits.
- Physician assistants (PAs) and Family Medicine (FM) physicians are uniquely positioned to encourage reading among parents and children by providing care across the lifespan.

Objective

- To develop, implement and evaluate an interprofessional curriculum to improve pediatric literacy knowledge, attitudes and practices among future primary care providers.

Methods

Sample and Participants
- FM residents (n=25), PA and medical students (n=37).

Curriculum Activities
- Online and traditional didactic training.
- Opportunities for service learning at homeless shelters.
- Objective structured clinical exam (OSCE) using pediatric, standardized patients (SPs) and standardized patient caregivers (SPCs).
- Medical learners completed 2 OSCE stations:
  - <2 years old; &
  - 2-5 years old.

Evaluations
- Pre/post-tests (13-item):
  - Program knowledge and early childhood milestones; &
  - Attitudes towards literacy discussions with parents during well-child visits.
- OSCE scores graded by SPCs:
  - Anticipatory guidance;
  - Types of books most appropriate for each age group; &
  - Basic patient-caregiver communication skills.

Didactic Curriculum Learning Objectives

Module 1: Reach Out and Read in Practice	Module 2: Incorporating Books in Children's Lives	Module 3: Reach Out and Read in Action	Module 4: Reach Out and Read Research
• Describe the Reach Out and Read mission and model. • Assess the national and local impact of Reach Out and Read. • List reasons why clinics should participate in Reach Out and Read.	• Describe literacy disparities based on SES and language. • Describe national reading assessments. • Determine risk factors in children associated with reading difficulties. • Determine ways to include books into the waiting and exam rooms. • Identify developmental milestones for early literacy. • Use PEER and CROWD techniques when reading to a child.	• Identify teachable moments and Bright Futures guidelines incorporated into Reach Out and Read training videos for all age groups • Determine which books to use for specific age groups. • Use SAFER technique to remember ways to use books in exam room.	• Determine what studies have been conducted to determine the effectiveness of the Reach Out and Read model for improving health outcomes. • Determine ways to make changes to your practice based on previous evidence.

*PEER = Prompts the child to say something about the book; Evaluates the child's response; Expands the child's response; Repeats the prompt.
CROWD = Completion prompts to finish sentences from books; Recall prompts to state what happened; Open-ended prompts about the picture and story; What, when, where any why prompts for preschoolers; Distancing prompts to relate the book to situations in their own life.
SAFER = Show book early and Share it with the child; Ask the parent about reading activities in the home and assess response; give Feedback to parent about observations of child's interaction with the book. Encourage parent to read aloud daily and express benefits of becoming a reader; Refer family to family literacy program if indicated and record intervention in chart.

Example OSCE Station: 6-12 Months

Station Overview and Student Prompt

This is a 6-month old patient and his grandmother.
Enter the room to talk to the parent/ patient about literacy.
Using the information you have learned about the Reach Out and Read program:
- Educate the parent/caregiver on what they can do to promote literacy in the child;
- Give a book to the patient;
- Provide anticipatory guidance based on the child's developmental stage; &
- Practice your basic communication skills.

Parent/Caregiver Overview and Script

You have come to a well-child visit today with your pediatric patient. The health care provider will enter the room to discuss the importance of literacy before conducting a well-child exam.

Explain to the health care provider that you read to your grandchild occasionally, but you don't really understand why it is important at such a young age when their attention span is limited anyway. You spend more time with him playing outside.

You are a busy professional with work and volunteer obligations and do not have set routines for your child because your work schedule changes often.

Results

Table 1: Knowledge and attitudes of medical learners (n=53).

	Pre-test	Post-test
Sample of Knowledge Measures	**n (%)**	**n (%)**
Watching Sesame Street is least likely to foster a child's reading and writing.	30 (56.6)	39 (81.3)
Most children turn pages in board books by 18 months old.	48 (90.6)	45 (93.8)
It is important to read a book word for word even for very young children.	36 (67.9)	43 (89.6)
Sample of Attitudes Measures	**Mean (SD)**	**Mean (SD)**
Comfortable assessing literacy during pediatric clinic visits.	2.83 (0.81)	3.89 (0.52)
Parents are (not) offended by questions about literacy.	3.15 (0.96)	3.74 (0.90)
The clinic is an appropriate place to encourage literacy.	4.12 (0.81)	4.57 (0.54)

Table 2: Selected OSCE Results by Station, 6-12 months (n=11).

Provided Anticipatory Guidance	n (%yes)
Talk back and forth with baby.	11 (100)
Make eye contact. with baby.	11 (100)
Cuddle, talk, sing, read, play.	4 (36.4)
Point at and name things.	3 (27.3)
Follow baby's cues for "more" or "stop."	2 (18.2)
Play games such as "peek-a-boo."	2 (18.2)
Provided Book Recommendations	**n (%yes)**
Board/cloth books.	10 (90.9)
Books with baby faces.	11 (100)
Nursery rhymes.	1 (9.1)

Discussion

- To our knowledge, this is the first interprofessional curriculum designed to improve communication about reading between primary care providers and pediatric caregivers.
- Next steps are to evaluate the curriculum impact on communication with and reading behaviors among mothers and their children at the homeless shelter.

Acknowledgments

- All volunteers who served as SPs and SPCs, the medical learners who completed curriculum elements and Jocelyn McConnell from Reach Out and Read Texas for her continued support.
- Funding was obtained from the University of Texas Southwestern Academy of Teachers Junior Faculty Development Fund.

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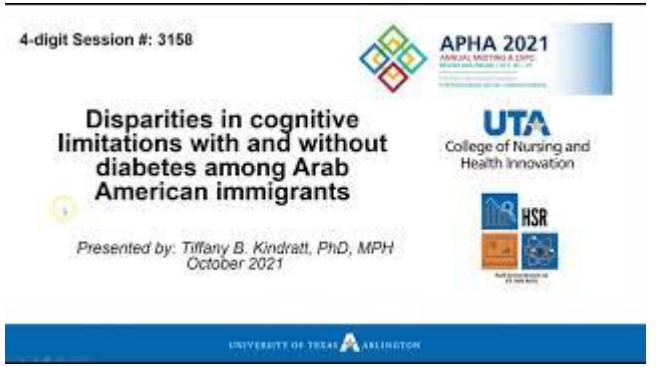
11.3.2 Oral Presentations

- Share research findings in a formal presentation with an audience of peers
- 10-20 minutes with 5-10 minutes at the end for questions
- Usually created using Microsoft PowerPoint slides
  - Emphasize key points to engage with audience
  - Include combination of bulleted text, figures, tables and pictures
  - Create the poster presentation first then expand on information in oral presentation
  - Include 1 slide per minute
  - Large font of size of size 28 or larger for visual accessibility.
  - Use slides as a guide – do not just read directly off the slide
  - Limit transitions and animations to improve accessibility
  - Include supplemental slides at the end in case the audience asks questions on content not covered in presentation

11.3.3 Virtual and Online Presentations

- COVID-19 pandemic shifted most professional meetings to online only or hybrid using online platforms
  - Social media
  - Video conferencing
  - Other meeting portals
- Presentation “livestream” or “pre-recorded”
- Will likely continue as mode of dissemination beyond pandemic

- Example of “pre-recorded presentations”
  - https://youtu.be/f8urhFaN7bI



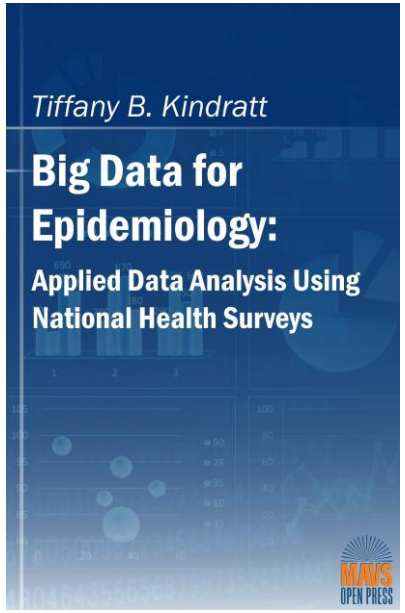
11.3.3 Virtual and Online Presentations

Benefits	Limitations
• Can reach a wider international audience • Allows researchers and students to participate with minimal funding • Allows caregivers or individuals with disabilities ability to participate • Allows some individuals greater comfort in networking activities	• Technical issues such as issues with lighting, webcams, and inconsistent internet access • Time zones may not be the same • May limit the ability of the presenter to fully engage in the presentation due to other obligations • Less “in-person” networking and interactions

Big Data for Epidemiology:

Applied Data Analysis using National Health Surveys

Chapter 11: Dissemination Part 1 Presentations



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Thank you!

Please contact me with questions regarding this presentation.

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