



Conducting Communication Science Research Studies at the State Fair

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INTRODUCTION

- Participant recruitment can be a very challenging component of conducting research in the field of communication sciences and disorders, especially for studies that require:
 - Narrow eligibility criteria, such as children in a specific age range
 - Large sample sizes due to the nature and/or scope of the research questions
 - Samples that are reflective of the population at large (e.g., diversity with regard to SES, educational attainment, age, residence, etc.)
- Traditional methods of recruitment, such as posting flyers or announcements on college campuses, advertising in print media, spreading information word-of-mouth, or using samples of convenience often result in biased samples:
 - Overrepresentation of college-aged adults
 - High educational attainment and SES
 - Predominantly participants from urban areas
 - Participants with a vested interest in the topic/results
- One alternative to these recruitment methods is to conduct research in large-scale public venues such as a state fair.
 - There is some precedent for conducting large-scale communication science research at a fair (e.g., determination of normal hearing reference at the Wisconsin State Fair by Glogic et al. in 1954-1955).

DRIVEN TO DISCOVER PROGRAM

- In 2014, the University of Minnesota launched the development of a new building at the Minnesota State Fair, the Driven to Discover ("D2D") Research Building.
- The D2D building was designed to be a dedicated research facility on the fairgrounds to allow fairgoers to participate in research from a wide range of disciplines.
- Funding was supported by the School of Public Health, Medical School, College of Food Agricultural and Natural Resources, and the Office of the Vice President for Research.
- A total of 30 research studies were selected to participate in the first year of the program, including two studies from the Department of Speech-Language-Hearing Sciences at the University of Minnesota.
- The D2D program is the only one of its kind in the country, and it's success capitalizes on the popularity and strong public support of the Minnesota State Fair.

MINNESOTA STATE FAIR

- The Minnesota State Fair has the highest daily attendance of and the second highest total attendance of all the state fairs in the country.
 - 2014 Attendance = 1,824,830 people over 12 days (-one third of the population of the state of MN)
- The fair, often referred to as the "Great Minnesota Get-Together," places large emphasis on community involvement and education.
- Additional emphasis on agriculture draws attendees from throughout the entire state, including rural areas far remote from the University of Minnesota.

STUDY 1

Kid Talk: How do kids think about language?

BACKGROUND:

- Metalinguistic skills includes the ability to think about and reflect on language.
- Relatively little is known regarding the course of metalinguistic development for typically developing children.
- Such information may help improve how language is taught to children with language-learning weaknesses.

PURPOSE:

- To better understand metalinguistic development in typically developing children using a cross-sectional experimental design.

METHOD:

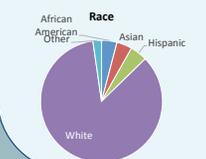
- Participants included children with typical development aged 3 through 7 years and their parent.
- Parents completed questionnaires regarding their child's language and cognitive development.
- Children completed the following tasks:
 - Metalinguistic awareness probe, including a renaming task, a word swap task, a morpheme production task, and a grammatical judgment task;
 - Nonverbal cognitive assessment: Matrices subtest of the Kaufman Brief Intelligence Test, Second Edition (KBIT-2; Kaufman & Kaufman, 2004); and
 - Word Structure subtest of the Clinical Evaluation of Language Fundamentals (CELF-P-2; Semel, et al., 2004 or CELF-4; Semel et al., 2003).
- Child participants received a small stuffed animal.
- Able to test 3 children at a time: 4 SLP graduate students, 1 undergraduate student, and PI present at each of the 7, 6hr-shifts (9AM-3PM or 3PM-9PM).

TARGET SAMPLE:

- 100 children with typical development between the ages of 3 and 7 years, with approximately 20 children at each age.

ACTUAL SAMPLE:

- 220 children (105 male; 115 female) completed the study
- Limited variability in terms of race and income levels



STUDY 2

Brain Power: Public perceptions of TBI

BACKGROUND:

- Traumatic brain injury (TBI) is a major public health concern in the state of MN and across the nation.
- Despite its high prevalence, research suggests the general public endorses misconceptions and negative attitudes about TBI (e.g., Ralph & Derbyshire, 2013).
- However, much of the previous research in this area was conducted more than a decade ago or overseas, and there exists little research on the effectiveness of public education campaigns.

PURPOSES:

- To determine the level of knowledge about TBI among the general population of Minnesota.
- To describe attitudes about TBI and to determine their relationship with knowledge.
- To determine whether a brief educational video will result in improved knowledge and/or more positive attitudes.

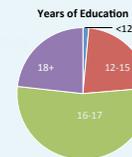
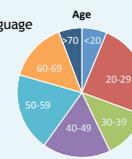


METHOD:

- Four measures were administered via online survey at the 2014 Minnesota State Fair:
 - Background questionnaire
 - Knowledge measure (CM-TBI-modified)
 - Attitude measure (MAS-modified)
 - Two items relating to information-seeking behavior
- Half the participants were randomly assigned to watch a 6-minute educational video about TBI prior to completing measures 2-4. The other half viewed an unrelated video.

TARGET SAMPLE:

- At least 150 adults
 - Speakers of English as a primary language
 - variability in terms of age, gender, education, etc.



ACTUAL SAMPLE:

- 400 recruited, 392 included in statistical analyses
- Considerable variability in terms of age (mean=43, range=17-87)
- Educational attainment was disproportionately high (mean=16).
- 155 zip codes represented; 11% of participants reported living in a rural area
- Gender imbalance (35% male)
- Considerable variability in terms of brain injury experience:

Brain Injury Experience:	%
Personal history of mild TBI (mTBI)	25%
Personal history of mTBI assoc. with complications such as fatigue, headaches, cognitive difficulties, etc.	17%
Personal history of mod/severe brain injury	4%
Immediate family member	34%
Extended family member or close friend	47%
Professional experience	25%

CONCLUSIONS AND CONSIDERATIONS

ADVANTAGES:

- Able to recruit large samples very quickly
- Easy recruitment; participants come to you
- Access to diverse SES cross-section of the general population
- Opportunity to increase public awareness and education of communication disorders while collecting data
- Potential for collaboration with community organizations
- Less incentive/compensation required for participation
- Opportunity for student research engagement
- Possibility for longitudinal data collection
- Can capitalize on public interest in your topic and participants' interest in other studies at the fair

CHALLENGES:

- Strategies to enforce participant eligibility requirements
- Difficult to determine whether someone is capable/legally allowed to provide consent (e.g., minors, alcohol consumption, individuals with acquired or developmental disabilities)
- Methodological limitations (e.g., need to keep tasks short and simple)
- Environmental challenges (e.g., noise, weather, space)
- Technical difficulties and accessibility issues
- Data analysis challenges
 - Large amounts of data collected in potentially chaotic environment
 - Difficult to identify potential problems until all data is already collected

RECOMMENDATIONS FOR RESEARCH AT THE FAIR:

- Consider your research question and study tasks carefully.
 - Are they appropriate for the fair?
 - How might they modified to be more engaging?
- Thorough pilot testing is essential!
 - Estimate completion time - the shorter the better!
 - Anticipate problems and develop contingency plans.
- Consider your target population and how you might spark interest.
 - Media coverage - consider doing interviews with local papers and/or news stations.
 - Booth design - use colorful displays, models, etc. to grab attention.
 - Participant compensation - brainstorm the most effective and motivating compensation.
 - Give-away: raffle, bags, toys, fair gift cards
 - Test results: scores on any tests or screenings
 - Make the task rewarding: games, simulations, technology
- Ensure accessibility
 - Multiple modes of presentation, closed-captioning, technology, environment, etc.

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