Spreading Knowledge of Communication Challenges Following TBI

LEND Capstone Summary
Elizabeth Young
Framing the Problem
Problem

- The communication challenges caused by TBI are poorly understood by the public, which leads to social and practical consequences that could be reduced by improved understanding.

- Little is known about the specific communication deficits caused by TBI.

- Communication changes over time within persons with TBI (PWTBI) have not been studied (Elbourne, Togher, Kenny & Power, 2016).

Aims of the Project

- Research changes in communication skills over the first 2 years following severe TBI acquired in adulthood.

- Provide information about the brain, brain injury and its impact on communication, and recovery of communication skills to people living with TBI and their support networks.
Investigation
Cognitive-Communication Disorders

The communication problems associated with TBI result from impaired cognitive skills, including:

- Attention
- Memory
- Planning
- Reasoning

This affects language use more than language form.

- Language Use: Knowing what to say and when to say it
- Language Form: Knowing which words to use and how to arrange them

TBI often results in language that is:

- Disorganized
- Inefficient
- Impoverished
Research Procedure

- University of Sydney brain injury research team (PI: L. Togher) collected video files of adults with severe TBI completing discourse tasks and shared them with University of New Mexico Neuroscience of Rehabilitation Lab (PI: J. Richardson).

- Transcription and coding of samples taken from 3/6, 12 and 24 months post-injury was conducted by UNM.

- Changes in performance within speakers were scored to evaluate recovery trends within the sample.
IRB

IRB approval was not required because:

• We had no direct contact with participants

• Participants signed consent forms providing permission for the data to be shared with AphasiaBank

• All data available through AphasiaBank is de-identified
Stimuli

The Broken Window (Menn et al., 1998)

Refused Umbrella (MacWhinney, Fromm, Forbes, & Holland, 2011)

Cat Rescue (Nicholas & Brookshire, 1995)
Discourse Coding: Topic Maintenance and Organization

Global Coherence (Topic Maintenance) Example

Topic: How you celebrated Halloween this year

5- I went to a party at a friend’s house.
3- Halloween is a scary time of year.
1- I’m done.

Local Coherence (Organization) Example

Preceding Utterance: “I went to a party at a friend’s house.”

5- There were a lot of people there.
3- She spent the summer in Italy.
1- Candy is really bad for you.
Discourse Coding: Informativeness

Main Concept Analysis Example

1 A/The boy ² was playing ³ soccer

AC: “boy was playing outside with a ball.”

AI: “boy ball”

IC: “they kick this around”

II: “and baseball or something”
Results & Interpretation

- Significant improvement of organization, topic maintenance, and informativeness between 3/6 months and 12 months post-injury.

- Non-significant decline was shown between 12 and 24 months post-injury.

- Results suggest that like other forms of acquired brain injury, recovery is most rapid over the first year following the injury.

- It could also be the case that therapy was discontinued between 1 and 2 years post-injury, so improvement did not continue.
Personal Leadership and Communication
Brain Injury Presentation

16 attendees including:

- People with brain injury
- Loved ones of people with brain injury
- UNM Speech and Hearing Science clinical supervisors and members of the Neurologic Rehabilitation Lab

Topics covered

- Brain anatomy and physiology
- Types of injury and their impact on communication
- Recovery trends and therapy options

TBI Talk: The Effect of Traumatic Brain Injury on Communication and Cognitive Skills and the Course of Recovery

Presented by University of New Mexico Speech and Hearing Department. Featuring:
Elizabeth Young - graduate student
Jessica D. Richardson - assistant professor and speech-language pathologist

Join us at the Desert Rose Playhouse to discuss:
- brain anatomy and physiology
- impact of Traumatic Brain Injury on communication skills
- recovery of skills over time

Anyone affected by or interested in TBI is welcome. We especially encourage individuals with TBI, their loved ones, and individuals who work with this population to attend.

Address: 6921 Montgomery Blvd NE, Albuquerque, NM 87109

Date/Time: April 12th, 2017  6:00pm to 8:00pm
References


THANK YOU!