

LightWRITER Use: Communicative Interactions of Adults with Traumatic Brain Injury

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Purpose

- n Examine the effects of text-to-speech devices on the communication of survivors of TBI
 - Differences in communication mode
 - Differences in communication function

Communication Mode:

The method of communicative output

- Natural speech
- LightWRITER
- Nonverbal
- Vocalizations
- Message generation
- Listening
- Not interacting

Communication Functions:

The purpose of communication attempts

- Asking questions
- Responding to questions
- Commenting
- Acknowledging comments of others
- Making commands
- Generating messages
- Listening
- Not interacting

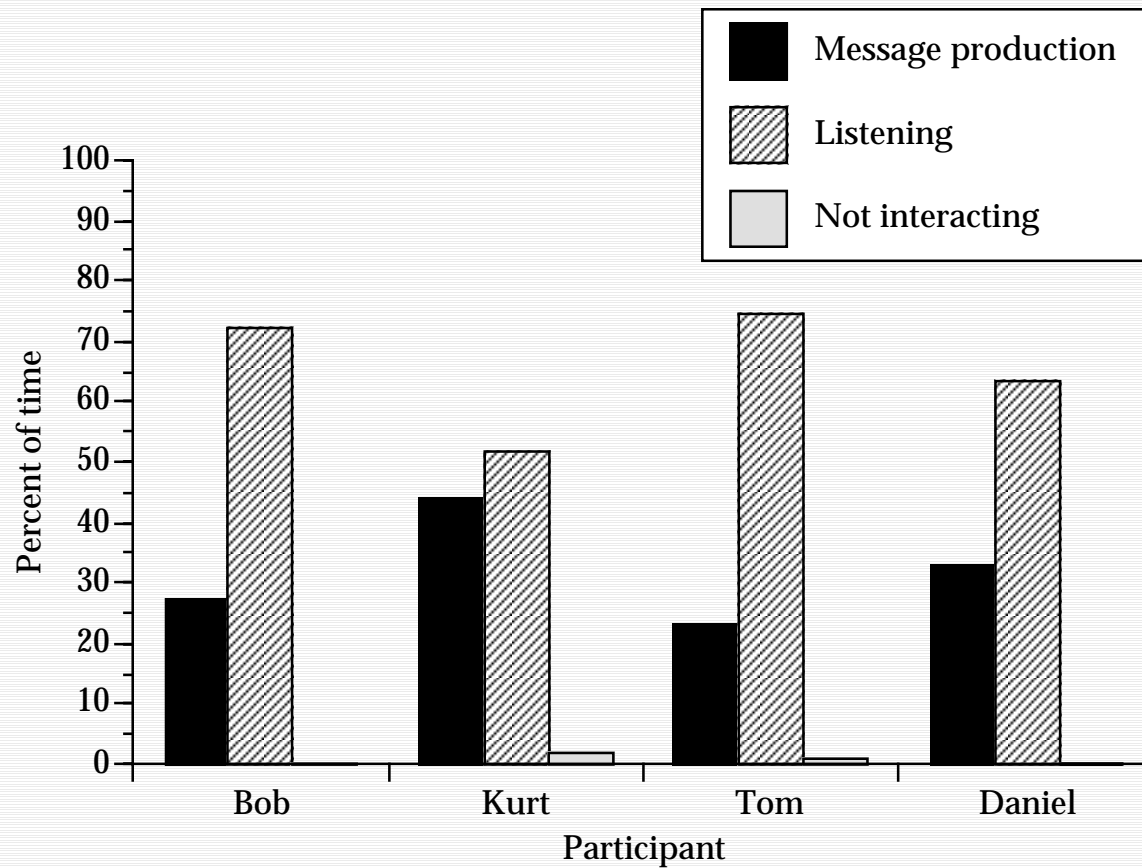
Participants

- n 4 adult male survivors of TBI
 - 2 LightWRITER users- Bob and Kurt
 - 2 natural speakers- Tom and Daniel
- n Age range- 26 to 33 years
- n Time post-injury- 2 to 22 years
- n Nonaphasic
- n Education level- high school to 5 years college

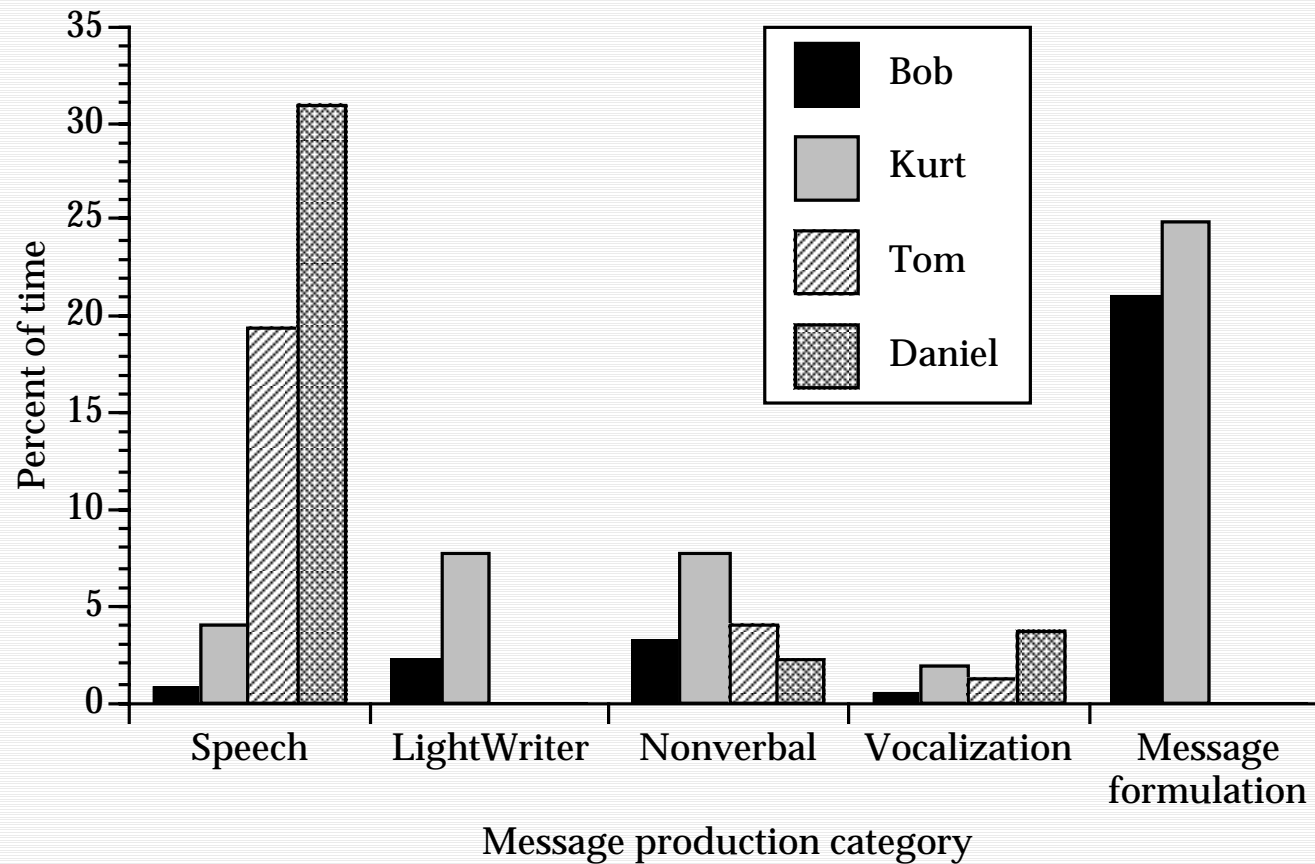
Procedures

- n UNL Observer program documented percent of time each participant spent in various communication modes and functions
- n 2 hours per participant in natural environment
- n Reliability: 91.27% to 91.55%

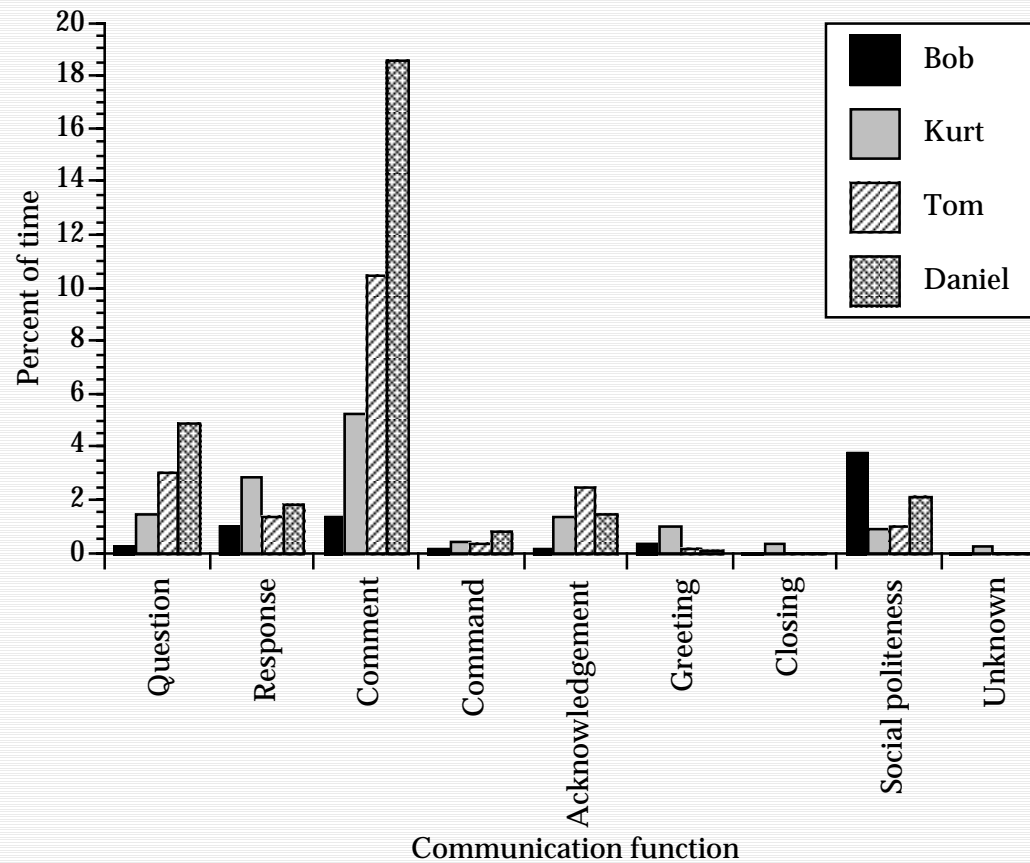
Percent of time in message production, listening, and not interacting



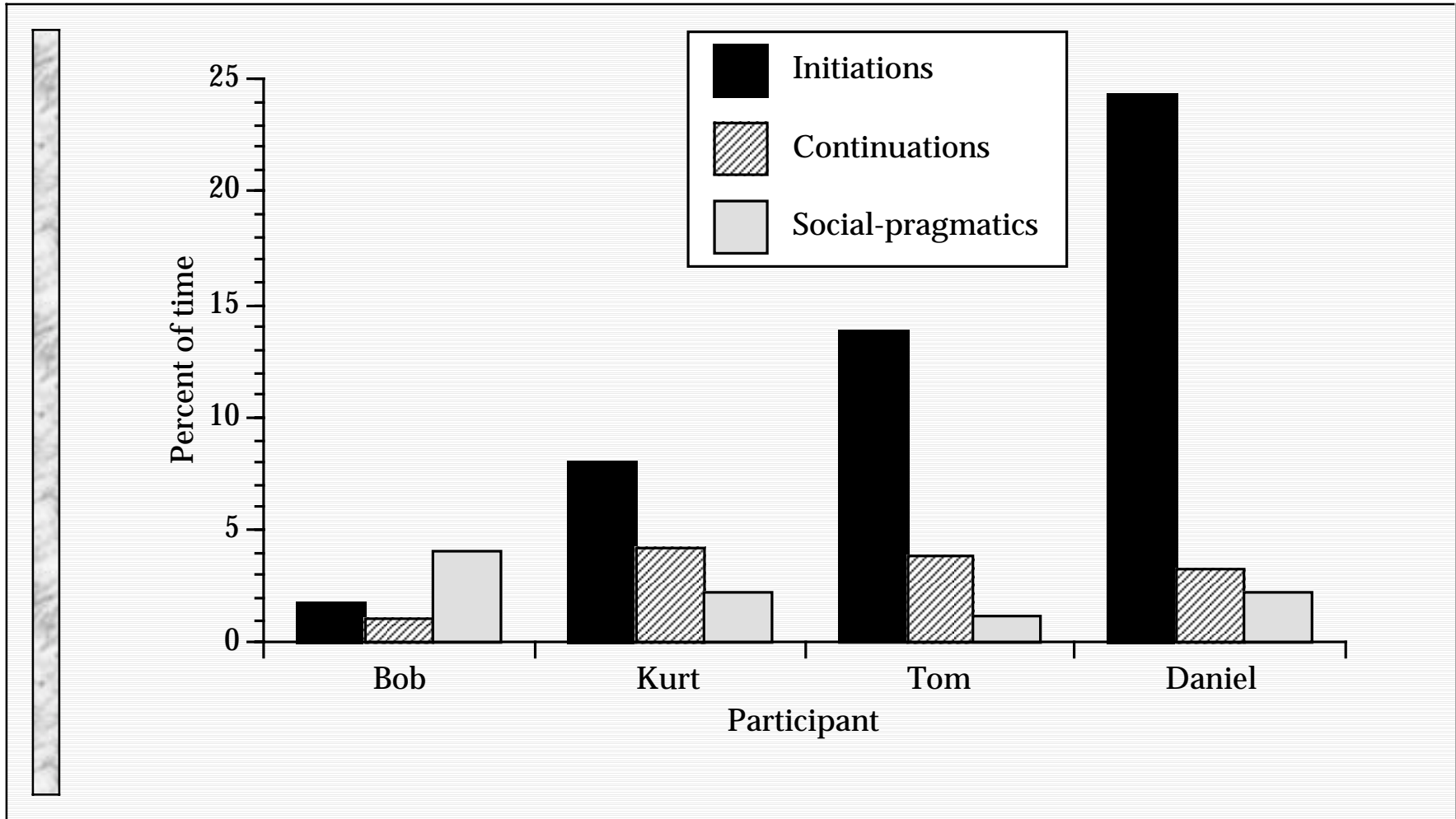
Percent of time in speaking, LightWRITER usage, nonverbal communication, vocalizations, and message production



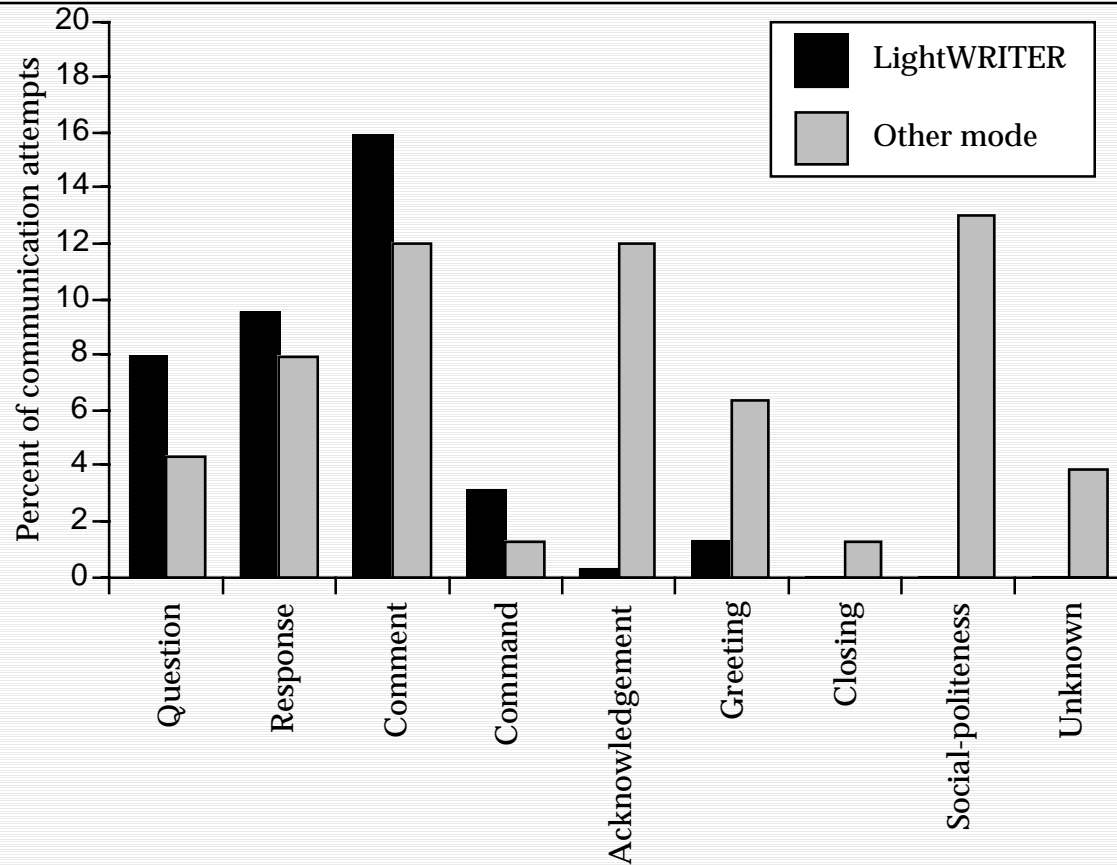
Percent of time in producing various communication functions



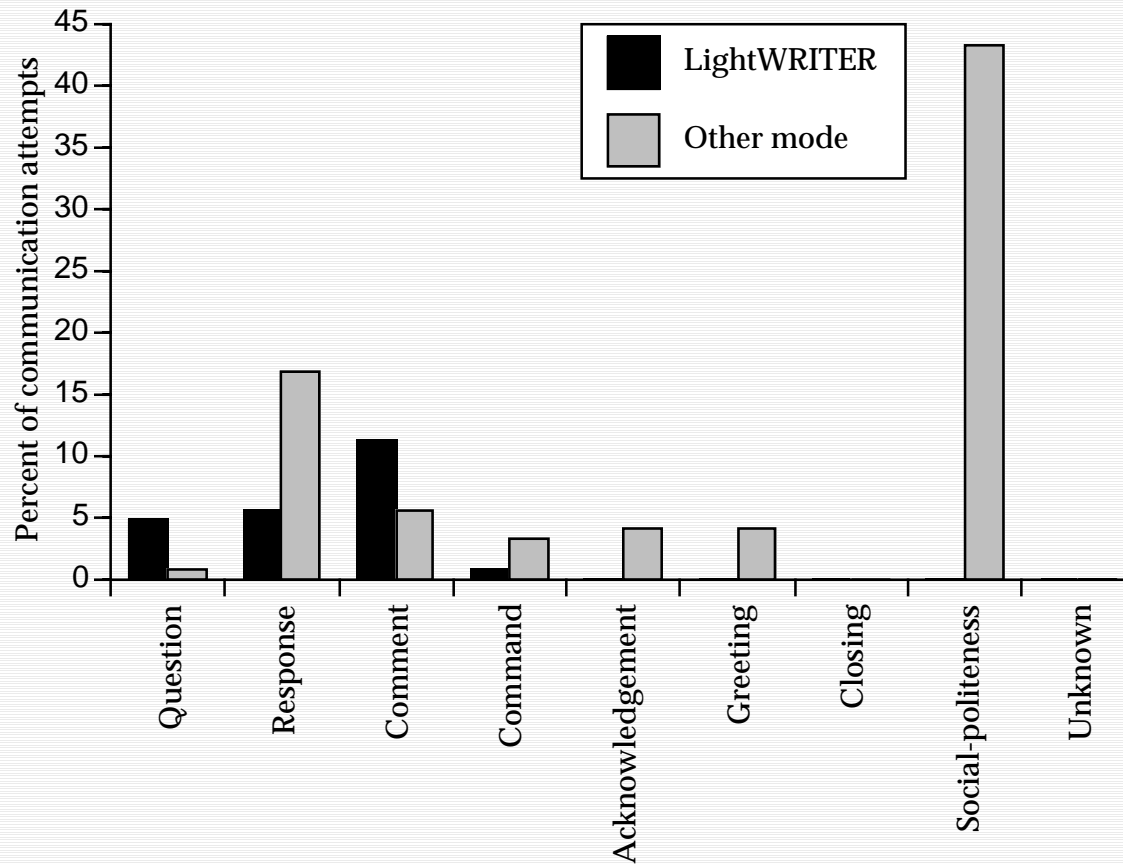
Percent of time initiating communication, continuing conversations, and engaging in social-pragmatic behaviors



Percent of time Kurt spent in various functions generated with his LightWRITER versus other communication modes.



Percent of Bob's communication attempts representing various functions generated with his LightWRITER versus another communication mode.



Discussion

- n AAC devices had substantial effects on conversational interaction patterns
- n Users of AAC initiated less during conversation, produced fewer questions and comments, and spent substantially greater amounts of time in message generation than users of natural speech
- n All participants spent the greatest amount of their time engaging in listening behaviors

Discussion

- n Users of Light WRITERS α spent a substantial amount of time preparing text-to-speech messages. This was roughly comparable to the time natural speakers spent talking
- n The percent of time spent in speech production by natural speakers was four times greater than the time LightWRITER users spent producing synthetic speech