



Vague Language Usage in Adults with Severe Traumatic Brain Injury

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Introduction

- Traumatic brain injury (TBI) can cause damage to language centers in brain leading to issues with pragmatic language, including vague language use^{1,2}
- Pragmatic language is governed by Grice's Cooperative Principles³
 - Quantity
 - Quality
 - Relation
 - Manner
- Currently, vague language is assessed with gestalt ratings of a full language sample as one of several rated items
- People with TBI have more:^{4,5,6}
 - Vague lexical selection
 - Word-finding difficulties
 - Provision of insufficient information
 - (At times) cohesion challenges in discourse
- Vague language has rarely been assessed at the utterance level in people with severe TBI
- Aims: To identify differences in vague language use in adults with & without TBI

Methods

Step 1: Narrative transcripts^{7,8}

- Story retell task
- Transcription

Step 2: Coding

- Training
- Coding with scale
- Refining manual

	TBI (n=46)	NBI (n=46)
Sex (F:M)	9:37	18:28
Race/Ethnicity	Non-Indigenous Oceanian or European: 37 Asian: 4 African: 2 Other: 3	White (not Hispanic/Latino): 43 African American: 2 Hispanic/Latino: 1
Age (years)*	Mean (SD) 36.28 (13.43)	Mean (SD) 36.28 (13.14)
Education (years)	Range 16-66 Mean (SD) 13.67 (3.08)	Range 18-66 Mean (SD) 14.63 (1.53)

Examples of Vague and Precise Language

Example of Vague Language

He went to the place

Amount: He
Type: the place

Error in vague language due to **an insufficient amount** or **the wrong type** of information²

Example of Precise Language

The prince went to Cinderella's house

Amount: The Prince
Type: Cinderella's house

No errors or variations in language²

Vague Language Use (VAGUE) Scale

The VAGUE scale was used to rate vagueness at the utterance level.

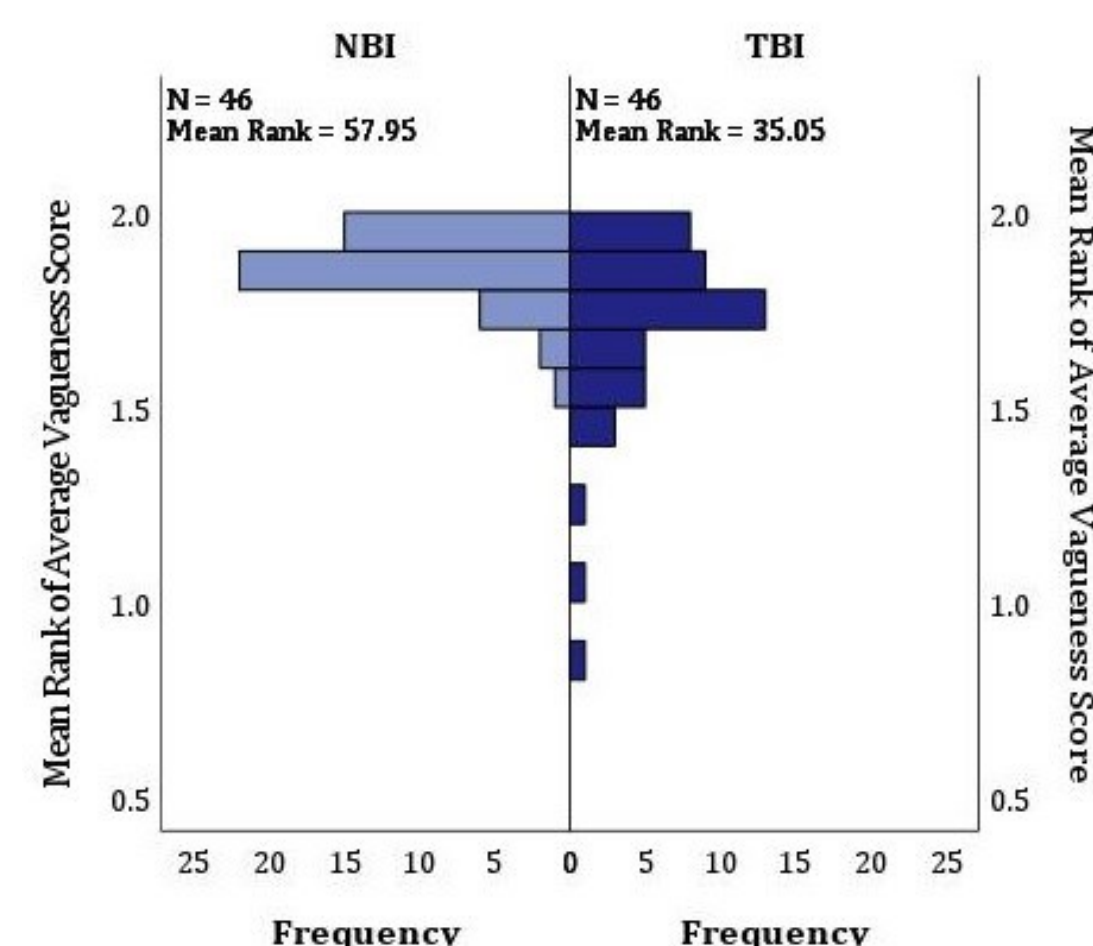
Note: an additional code of "8" was applied to the following conditions:

- Unintelligible utterance
- Trailing off or abandoned utterance
- Exclamations or expressions

0	Type and amount of information insufficient, vague, and hard to understand which leads to an insignificant utterance. <ul style="list-style-type: none"> Relevance is unclear. Message is hard to understand
1	Type and amount of information insufficient and/or vague but the message contributes to the story. <ul style="list-style-type: none"> Contains one vague word. Contains two vague pronouns (or one inaccurate pronoun)
2	Type and amount of information is a normal or a slight deviation from normal. The type and amount of information is sufficient. <ul style="list-style-type: none"> Contains one vague pronoun. No issues or the message is slightly vague. Contributes to the story

Results

Mean Ranks for Average Vagueness Scores



Mann-Whitney U-test revealed significant between-group differences in mean ranks, $U = 531, p < .001$

Number of Participants Below 1 and 2 Standard Deviations (SD) in Each Group

	TBI	NBI
1 SD below mean	27	6
2 SD below mean	14	2

Chi-squared tests revealed significant between-group differences in the number of participants who scored at least 1SD below the mean, ($\chi^2 (1, N=92) = 20.84, p < .001$), and at least 2 SD below the mean ($\chi^2 (1, N=92) = 10.895, p < .001$)

Conclusion

- The TBI group scored significantly lower on the VAGUE scale, indicating more use of vague language
- A significantly larger proportion of the TBI group scored ≥ 1 SD below the NBI mean

Future Directions

- Rate vague language usage at different timepoints (3, 6, 9, & 24 months) post-TBI⁷
- Train more coders to improve reliability & validity of the VAGUE scale
- Gather other psychometric evidence to support the VAGUE scale's use
- Identify a set of variables that are sensitive to cognitive-communication disorders across severities, efficient to administer, and can inform treatment & reintegration into the community

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