Comparison of Main Concept and Core Lexicon Productions between the Modern and Original Cookie Theft Stimuli in Healthy Control Participants

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Introduction

Discourse analysis provides insights into functional communication abilities that standard assessments do not. Main Concept Analysis and Core Lexicon Analysis are two measures that are clinically practicable and informative.1,2

One of the most frequently used stimulus items to elicit discourse is the “Cookie Theft” image from the BDAE.3

Original image has been updated and edited to balance items on the left and right side of the image, reduce stereotypical representations of gender roles, and add color.4

Given the rich history of research using the original Cookie Theft, development of main concept and core lexicon checklists is warranted.

Specific Aims:

1) Develop Main Concept Analysis and Core Lexicon checklists for the original and modern Cookie Theft stimuli using healthy control samples.

2) Identify differences in productions of discourse elicited by the two stimuli in healthy controls.

Main Concept Development

Followed process outlined in Richardson & Dalton, 2015.

A list of all relevant concepts was created from the transcripts for each task.

Then tallied how frequently relevant concepts were produced.

Main Concepts were produced by ≥33% of the sample.

Core Lexicon Development

Followed process outlined in Dalton & Richardson, 2015.

Lists of all lemmas in each transcript were created.

The frequency of occurrence of lemmas across transcripts was calculated.

Any lemma that was produced by 50% or more of the sample was included as a core lexicon item.

Methods

Transcripts

45 control transcripts of the original cookie theft stimulus from DementiaBank.

• 17 Female, 28 Male; mean age: 62 yrs (46-80); mean education: 14 yrs (11-20)

48 control transcripts of the modern cookie theft stimulus from JHU

• 35 Female, 15 Male; mean age: 60.5 yrs (20-89)

Elicitation Differences

Original: “Look at the picture and tell me everything that you see going on in the picture.”

Modern: “Describe everything that is happening in the picture (as though describing it for the blind), trying to use complete sentences.”

Core Lexicon Development

Followed process outlined in Richardson & Dalton, 2015.

A list of all relevant concepts was created from the transcripts for each task.

Then tallied how frequently relevant concepts were produced.

Main Concepts were produced by ≥33% of the sample.

Core Lexicon List

Given the rich history of research using the original Cookie Theft, development of main concept and core lexicon checklists is warranted.

Facilitate comparisons between historical and future research and allow clinicians and researchers to select the most appropriate stimulus.

Specific Aims:

1) Develop Main Concept Analysis and Core Lexicon checklists for the original and modern Cookie Theft stimuli using healthy control samples.

2) Identify differences in productions of discourse elicited by the two stimuli in healthy controls.

Main Concept

• 171 unique relevant concepts identified for the original Cookie Theft.

• 164 unique relevant concepts identified for the modern Cookie Theft.

• 9 and 14 main concepts identified for the original and modern stimuli, respectively (Table 1).

Core Lexicon Checklists

• 374 unique words produced for the original Cookie Theft.

• 712 unique words produced for the modern Cookie Theft.

• 26 and 41 core lexicon items for the original and modern stimuli, respectively (Figure 1).

Discussion

• The two stimuli demonstrate overlapping and unique items for both MCA and CoreLex.

• The modern cookie theft stimulus has new characters and actions and is visually richer.

• The modern instruction seems to be effective in eliciting longer descriptions, made up of more main concepts and core lexical items.

• This work again demonstrates that image complexity and task instructions impact task performance in a normative sample.

• Creation of MCA and CoreLex checklists for both cookie theft images will allow direct comparisons of performances across stimuli.

• Given the extensive use of the original cookie theft this will better situate future research within a historical framework.

• Future research should compare performance of PWA and other clinical populations on the two images to further advance clinical utility of these stimuli.

References


