

THE MICRO AND MACRO DISCOURSE STRUCTURE OF TELEVISION  
COMMERCIALS

by

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# THE MACRO AND MICRO DISCOURSE STRUCTURE OF TELEVISION COMMERCIALS

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## ABSTRACT

**Purpose:** The purpose of this research was to evaluate the use of television commercials to elicit discourse samples. **Participants:** 25 commercials were selected for analysis in Study 1. Ten adults ranging in age from 19-22 years of age participated in Study 2. **Method:** Macrostructure elements measured in commercials (Study 1) and in stories produced in response to these commercials (Study 2) were as follows: assignment of narrative type and coding for the structural elements associated with that type. Additionally, a determination of match/mismatch in narrative type was made between narrative level assigned to the commercial in Study 1 and discourse sample in Study 2. Microstructure in both studies was measured as follows: number of words/concepts and number of different words/concepts. In Study 1 a comparison was made between the number of concepts represented visually and in dialogue. In Study 2, a measure of syntactic complexity (subordination index) was calculated. **Results:** The majority of the commercials exhibited episodic structure. The types of narratives elicited from participants were comparable to the commercials analyzed in Study 1. Results suggest commercials can be a useful tool for eliciting discourse samples with particular structure that demonstrate linguistic complexity.

## **Table of Contents**

<b>Literature Review .....</b>	<b>1</b>
<b>Purpose and Research Questions.....</b>	<b>5</b>
<b>Study 1 .....</b>	<b>6</b>
<b>Method.....</b>	<b>6</b>
<b>Results .....</b>	<b>10</b>
<b>Study 2 .....</b>	<b>12</b>
<b>Method.....</b>	<b>12</b>
<b>Results .....</b>	<b>16</b>
<b>Discussion.....</b>	<b>20</b>
<b>References .....</b>	<b>22</b>

## Literature Review

Discourse is a form of communication that exceeds the length of a sentence (Hughes, McGillivray, & Schmidek, 1997). Common types of discourse are personal narrative, fictional narrative, conversational, and expository. A fictional narrative consists of a composition or a recount of a previously read or heard story, while a personal narrative consists of a recall of an actual past experience (McCabe, Bliss, & Barra, 2008). Fictional narratives may or may not contain real-life events, while personal narratives allow individuals to connect through relatable experiences. Hughes, McGillivray, & Schmidek (1997, p. 356) define conversational discourse as “a type of discourse consisting of talk by two or more partners with short turn-taking exchanges” and expository discourse as discourse that is utilized to instruct in a written or oral format. Expository discourse includes procedural discourse in which an individual describes an event through step-by-step instructions.

Difficulties with producing and comprehending discourse are evident in individuals with language impairments. For example, in a study done by Nicholas and Brookshire (1993) of twenty non-brain-damaged adults and twenty adults with aphasia, expository and fictional discourse samples were elicited by instructing subjects to say what was happening in the pictures placed in front of them. They found that the narratives elicited from non-brain-damaged adults were more complex in terms of number of words as well as words per minute than those elicited from adults with aphasia. Discourse ability is also impaired in children with specific language impairment and traumatic brain injury (McCabe, et al., 2008).

McCabe, et al. (2008), elicited personal narratives from children with specific language impairment and found that their narratives were shorter and often omitted key information as compared to their peers with typical language development. These children also violated chronological sequences of events. Children and adults with traumatic brain injury, compared to peers with typical language development, were significantly more dysfluent and also omitted much key information (McCabe et al., 2008).

An impairment in the ability to comprehend and produce language at the level of discourse leads to many problems socially as well as academically (Fotiadou, Northcott, Chatzidaki, & Hilari, 2014). According to Peterson, Gillam, Gillam, & Spencer (2010), knowledge of language is frequently assessed in the classroom using narrative production tasks because narrative ability is highly correlated with academic success. Narrative ability provides insight into an individual's knowledge of simple grammatical rules, which in turn provides insight into an individual's reading ability. Throughout elementary school, personal narrative writing is a critical component of language instruction (McCabe, et al., 2008). Therefore, children with language impairment will struggle in writing portions of their grade school studies. An individual with a language impairment will also suffer socially through the loss of narrative ability (Fotiadou, Northcott, Chatzidaki, & Hilari, 2014). Personal narratives help us relate to others through similar experiences or the re-telling of events to inform others about ourselves. Because an individual with a language impairment has communication difficulties,

peers will initiate less contact with the individual and therefore isolate him or her socially (Fotiadou, Northcott, Chatzidaki, & Hilari, 2014).

Because of its functional importance, narrative discourse should be assessed when evaluating individuals with suspected communication impairments.

Narrative discourse is flexible and allows the speaker to demonstrate what they know rather than having his or her knowledge defined by norm-referenced assessments, which can be unnatural and decontextualized (McCauley & Swisher, 1984). When assessing isolated aspects of morphology, syntax, and semantics at the sentence-level using isolated sentences to diagnose language disorders, the speaker does not have the chance to demonstrate his or her knowledge of scripts, macrostructure, causal change, and linguistic contexts as he or she would when providing a narrative sample (Nicholas & Brookshire, 1995). Using discourse analysis in assessment provides the individual the opportunity to utilize discourse in a more functional way, as opposed to practicing language in isolation. Children with typical language development are capable of producing complete and complex oral personal narratives by the time they enter first grade (McCabe, et al., 2008), so it is vital to have knowledge of a child's narrative development in order to indicate his or her future academic outcomes.

A variety of stimuli can be used to elicit the same or different types of discourse. There are typically two classes of stimuli used to elicit narrative samples: those used for original constructions, such as objects and pictures, and those for retelling of a heard or read story (Hedberg & Stoel-Gammon, 1986). Original constructions can be personal or fictional. Sequencing is also a method of eliciting a

narrative sample, in which “a single picture with one or more potential story characters, a physical setting, and possibly an event provides a medium amount of structure” (Hedberg & Stoel-Gammon, 1986). Varying levels of structure are provided for individuals in narrative assessment depending on the stimuli chosen. “More highly structured stimuli have been found to have a positive effect on the degree of structure in narratives produced by adults with aphasia” (Hedberg & Stoel-Gammon, 1986).

One source of structured stimuli for assessing discourse is short, engaging videos, such as television commercials. Short videos do not require the individual to maintain attention for extended periods of time. Commercials are very short yet they appear to tell a complete sequence or story, which provides a perfect narrative model for the individual to follow when re-telling the story. While narrative production may be indirectly tested through the use of picture or object stimuli, narrative production is not tested through the use of commercials as stimuli. Familiar experiences are often demonstrated in commercials, so the individual is likely to be able to relate to the commercial. Commercials depict a fictional narrative that parallels personal experience, making the use of commercials more functional than stimuli such as pictures or objects. Individuals practice personal narratives far more than they do fictional narratives (McCabe, et al., 2008), so the use of commercials will allow the individual to utilize personal narrative discourse in a functional format.

## **Purpose and Research Questions**

The purpose of this research was to evaluate the use of television commercials to elicit discourse samples. The studies explored the micro- and macrostructure of the narratives depicted in television commercials and the stories told by a group of adults in response to a subset of those commercials.

Macrostructure was examined in relation to narrative type while microstructure was measured in terms of semantic and syntactic aspects of the narratives.

In Study 1, the linguistic and narrative structure of a selection of television commercials was analyzed. Macrostructure was analyzed to answer the following question: What story structures characterize the actions taking place in a selection of 30-60 second television commercials? Microstructure was analyzed to answer the question, what are the semantic characteristics of stories contained in a selection of 30-60 second television commercials?

In Study 2, television commercials were used to elicit discourse samples that were analyzed for macro and microstructure. The question posed in Study 2 was as follows: Do the discourse samples produced by participants in Study 2 match the original categorization of the television commercials in Study 1? Macrostructure was examined in relation to narrative type and microstructure was examined in terms of number of concepts presented and amount of dialogue.

2.1 How does the narrative structure of stories elicited using commercials for neurologically normal adults compare to the narrative structure established for each commercial in Study 1?

2.2 What is the syntactic and semantic complexity of stories elicited using sets of event and story grammar commercials for neurologically normal adults?

2.3 What story structure characterizes narratives produced by neurologically normal adults in response to sets of event and story grammar commercials?

## Study 1

### Method

The purpose of Study 1 was to examine the micro and macrostructure of the narratives depicted in television commercials. Macrostructure elements were measured by assigning each commercial a narrative type and coding for the structural elements associated with that type. Microstructure was measured by the number of concepts represented in the visual and verbal elements of the commercial.

**Commercial selection.** For this pilot study, twenty-five commercials were selected for analysis. Commercials that met the following criteria were included in the study: ease of availability, sense of “telling a story” on initial viewing, and no more than 30-60 seconds.

**Transcription.** Commercials were transcribed into Systematic Analysis of Language Transcription (SALT; Miller & Iglesias, 2010) software. Actions depicted visually in the story were transcribed using primarily content words. Dialogue was

transcribed verbatim. The transcript was segmented into the equivalent of c-units based on a single and complete action and the related reactions.

Transcription reliability was established via consensus. The primary investigator transcribed all of the commercials. The supervising professor reviewed each transcript. Any disagreements in word choice or segmenting were discussed. If agreement could not be reached a third researcher was consulted and a consensus was reached.

**Data Analysis.** Each commercial was categorized into one of eleven narrative levels according to Heilmann's Levels of Narrative Analysis (Heilmann, Miller, Nockerts, 2010; see Table 1). Commercials were then assigned to one of two groups: Narrative levels 1-5 were considered "event narratives" and levels 6-11 were categorized as "story grammar" narratives.

SALT conventions were used to calculate measures of micro and macrostructure in discourse. SALT generated a count of the number of different words that appeared in the commercial transcript. Utterance codes were assigned to each line of the transcript, as appropriate, to indicate macrostructure. "Event" narratives were assigned the following codes: event and theme. Story grammar narratives were assigned the following codes: initiating event, attempt, consequence, internal response, reaction, theme, complete episode, incomplete episode and internal plan (Hughes, McGillivray, Schmidek, 1997).

Table 1

A Description of Heilmann's Levels of Narrative Analysis		
Narrative Level	Narrative Label	Description
1	Isolated description	Description of random characters and actions.
2	Descriptive sequence	Describe characters and actions, but no causal relationships.
3	Action sequence	Actions described in correct chronological order, but no causal relationships.
4	Reactive sequence	Series of actions with some causal relationships, no goal-directed behavior.
5	Abbreviated episode	Story is goal-directed, but characters' intent is not explicitly stated.
6	Incomplete episode	Characters' intent is explicitly stated but one of the following episode components is missing: initiating event, attempt, or consequence.
7	Complete episode	Story contains all three aspects of a complete episode: initiating event, attempt, and consequence.
8	Complex episode	Full episode is elaborated by including an obstacle to obtain the goal.
9	Multiple episode	Story contains more than one episode (either complete or incomplete).
10	Embedded episodes	One episode embedded within another.
11	Interactive episodes	Use multiple perspectives to describe events; multiple characters and multiple goals mutually influence each other.

Table 2

A Description of Codes used in the Analysis of Narrative Macrostructure  
(Hughes, McGillivray, Schmidek, 1997, 118-119, 354).

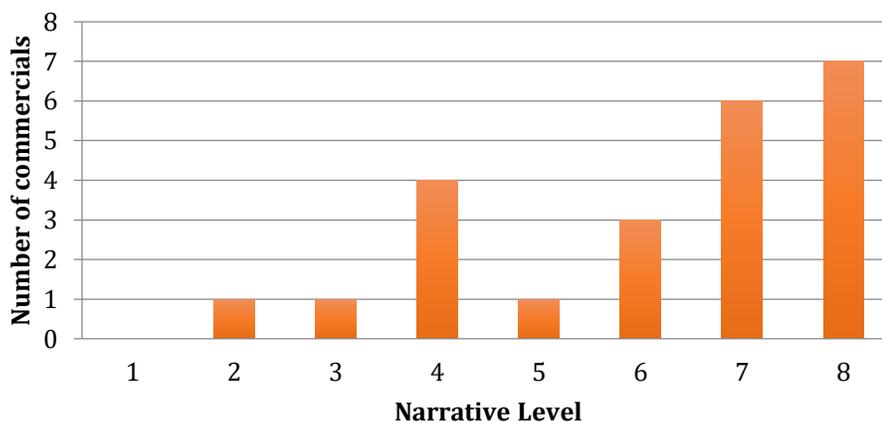
Code	Name	Description
[E]	Event	Narrative language that describes ongoing activities or plans for future activities.
[Th]	Theme	The significant idea throughout a work of narrative language.
[CE]	Complete Episode	Characters' intent is explicitly stated but one of the following episode components is missing: initiating event, attempt, or consequence.
[InEp]	Incomplete Episode	Characters' intent is explicitly stated but one of the following episode components is missing: initiating event, attempt, or consequence.
[IE]	Initiating Event	An event, sometimes called "complication," that sets the events of the story in motion, including a problem that requires a solution.
[A]	Attempt	Some action taken by the main character that is meant to solve the problem.
[CON]	Consequence	The event(s) following the attempt and causally linked to it, whether successful or not.
[IR]	Internal Response	A statement of how a character feels in response to the initiating event.
[R]	Reaction	The final state or situation triggered by the initiating event.
[IP]	Internal Plan	A statement of an idea that might fix the problem.

**Coding and narrative level assignment reliability.** Reliability was established via consensus. The primary investigator assigned each transcript a narrative level and assigned codes. The supervising professor reviewed each transcript for narrative level and coding. Any disagreements were discussed. If the researchers did not agree, a third researcher was consulted to reach consensus.

## Results

**Commercial Narrative Macrostructure.** The twenty-two commercials selected for analysis were categorized by narrative type (see Figure 1). Thirty percent (6/22) of the commercials were categorized as level 2-4 (i.e. event narratives). The majority of commercials, 16/22 (70%), demonstrated some level of goal directed behavior and were categorized as level 5-8 (i.e. story grammar narratives).

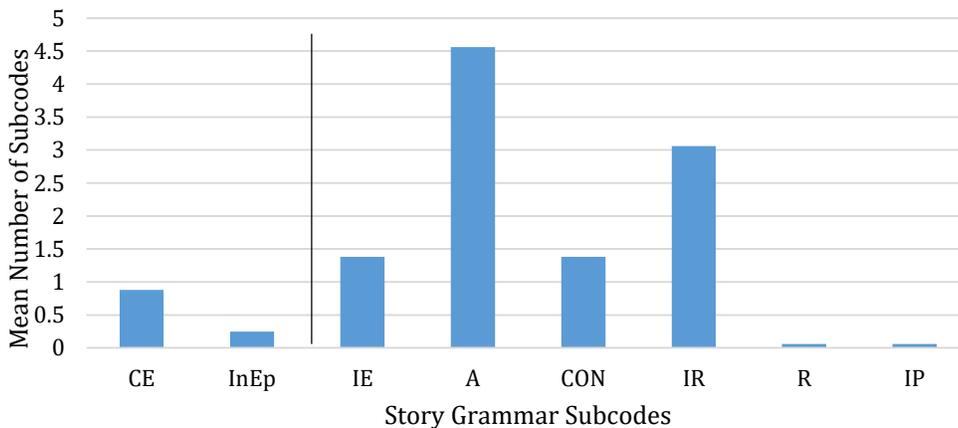
*Figure 1.* Number of commercials per narrative level



On average, each “event” commercial contained 6.7 events (SD=1.89, range=4-9). Eighty-seven percent (14/16) of “story grammar” commercials

contained at least one complete episode (see Figure 2). On average, .85 complete episodes were included in each commercial ( $SD = .34$ , range= 0-1). Twenty-five percent (4/16) of commercials contained at least one incomplete episodes ( $X = .25$ ,  $SD = .45$ , range=0-1). All (16/16) commercials contained an initiating event ( $X = 1.38$ ,  $SD = .5$ , range= 1-2) and ( $X = 4.56$ ,  $SD = 3.46$ , range= 1-11). Consequences were evident in 15/16 commercials with an average of 1.38 consequences per commercial ( $SD = 1.02$ , range= 0-4). There were internal responses present in 13/16 commercials with an average of 3.06 internal responses per commercial ( $SD = 2.69$ , range= 0-9). Reactions and internal plans were present in only six percent (1/16).

*Figure 2. Mean number of subcodes per story grammar commercial*



**Commercial Narrative Microstructure.** When grouping the two categories of commercials together (event and story grammar) the average number of words in the commercial was 161.23 ( $SD = 69.3$ , range=63-277). The average number of words for event commercials was 185.71 ( $SD = 79.49$ , range=87-245). On average, the number of words-commercial for story grammar commercials was 136.75 ( $SD = 61.13$ , range= 63-277).

All of the commercials grouped together had an average number of different words-commercial of 74.92 (SD=25.34, range=28-117). The average number of different words-commercial for event commercials was 85.14 (SD=23.97, range=49-117). Story grammar commercials averaged 64.69 different words per commercial (SD= 23.94, range= 28-109).

The mean number of words-dialogue for all of the commercials was 27.12 (SD=21.43, range=0-64). On average, event commercials contained 29.71 words of dialogue (SD= 21.92, range= 0-59). Story grammar commercials contained an average 24.5 words-dialogue (SD=21.74, range=0-64).

On average, all the commercials contained 22.59 different words-dialogue (SD=17.07, range=0-50). The event commercials averaged 24.86 different words-dialogue (SD=17.31, range= 0-48). Story grammar commercials contained an average of 20.31 different words-dialogue (SD=17.34, range=0-50).

## **Study 2**

### **Method**

The purpose of Study 2 was to examine the micro and macrostructure of participant narratives elicited using six commercials from Study 1. Macrostructure elements were measured by assigning each discourse sample a narrative level and coding for the structural elements associated with that level. Microstructure was measured using number of different words (semantic complexity) and subordination index (syntactic complexity) as calculated by SALT (Miller & Iglesias, 2010).

**Participants.** Ten adults ranging in age from 19 to 22 years old participated in this study. Participants met the following criteria: no history of language disorder or delay, no history of neurological impairment, and no vision or hearing impairment that would affect their ability to participate in the study. The five males and five females who participated received no incentives for their involvement in this study.

**Procedure.** In this study, participants were asked to tell a story for each of six commercials presented in a random order. The data collection took place in a quiet room in the Miller Speech and Hearing Clinic. The researchers first established eligibility to participate in the study and obtained informed consent. Prior to the first commercial, participants were given the following instructions: "I'm going to show you a series of commercials. After each commercial, I will ask you to tell me a story about what you saw." After the first commercial was presented the experimenter stated, "Okay, you can collect your thoughts for a bit and begin when you are ready." Once the participant finished his or her narrative, the experimenter provided one prompt ("Okay, do you have anything more to add?" or "Is that everything?"). Once the participant's response was complete, the experimenter continued with the next commercial. The process was repeated until all the commercials were viewed by the participant. Each session lasted approximately twenty minutes.

Each commercial was assigned a number between one and six. A random number generator was used to create 10 sets of random numbers between one and six. A Prezi file was created for each set with the commercials embedded in the

random order. A Prezi file was then randomly assigned to each participant. A Prezi file was used only once. Commercials were presented on a Macintosh desktop computer with a twenty-seven-inch monitor.

All sessions were video and audio recorded. The video and audio recordings were transferred to the Macintosh computer immediately following the session.

**Commercial Selection.** Six commercials were selected for this study: three commercials categorized in the first study as event and three categorized as story grammar. Commercial groups were balanced for length, number of different words, and amount of dialogue.

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Table 3

Title, Description, and Narrative Level for the Six Commercials used to elicit Narratives in the Second Study

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<b>Title</b>	<b>Description</b>	<b>Level</b>
Budweiser "Brotherhood"	A man raises a horse, sells the horse to Budweiser to become a Budweiser Clydesdale and they are reunited at the end.	4
Coca-Cola "Family"	A couple has a child together and the child turns their lives upside down but in the end they are overjoyed to be having another baby.	4
Intel "Robot"	A group of co-workers sit around a table to discuss the latest Intel invention, all the while not noticing they are impacting one of Intel's other inventions.	4
Budweiser "Lost Dog"	A curious puppy runs away from its owner and faces the struggle to get back home, only to be saved by the Clydesdales raised by his owner.	7
Doritos "Little Girl vs Dog"	An angry dog steals a little girls' Doritos until she makes a plan to get rid of the dog.	8
Budweiser "Human Bridge"	The Budweiser truck cannot get to a town because a bridge is out, so the town decides to build a human bridge.	8

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**Transcription.** Commercials were transcribed using Systematic Analysis of Language Transcription (SALT; Miller & Iglesias, 2010) software. All audio files were transcribed verbatim into SALT by the primary investigator or a graduate assistant. The discourse samples were segmented into c-units, which are defined as an independent clause and its subordinate clauses (Hughes, McGillivray, & Schmidek, 1997). Transcripts were formatted and coded according to SALT conventions.

Transcription reliability was established by consensus. The primary investigator and the supervising professor reviewed each transcript. Any disagreements in word choice or segmenting were discussed. If agreement could not be reached, a third researcher was consulted and consensus was reached.

**Data Analysis.** The narrative and linguistic structures of each story were explored using frequency counts generated by SALT. The following variables characterized the macro-structure of each story: narrative level, narrative level match/mismatch to commercial, number of events (for event narratives) and number of complete episodes and number of story grammar elements (for story grammar narratives). Utterance codes were created for narrative level, events, episodic structure, and episodic elements (see Table 2). SALT produced a frequency count for each code.

The following variables characterized the microstructure of each story: number of words, number of different words, and subordination index. SALT generates measures for the first two variables. The subordination index was calculated by SALT and indicates the average of the number of verbs per c-unit.

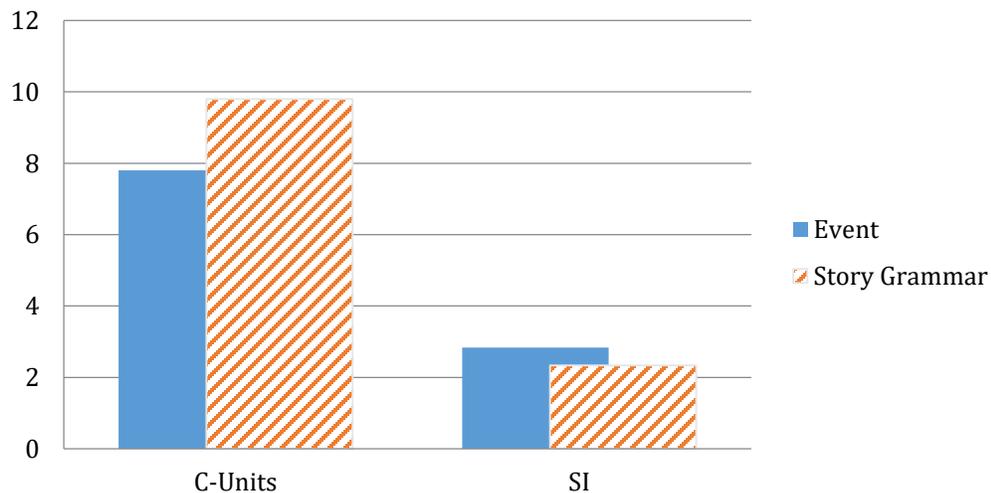
**Coding and Narrative Level Assignment Reliability.** Reliability was established via consensus. The primary investigator or graduate assistants assigned each transcription to a narrative level and coded each transcript. The primary investigator conducted an initial review of all transcripts. The supervising professor then reviewed each of assigned level and code. Any disagreements were discussed. If an agreement could not be reached, a third researcher was consulted and a consensus was reached.

## **Results**

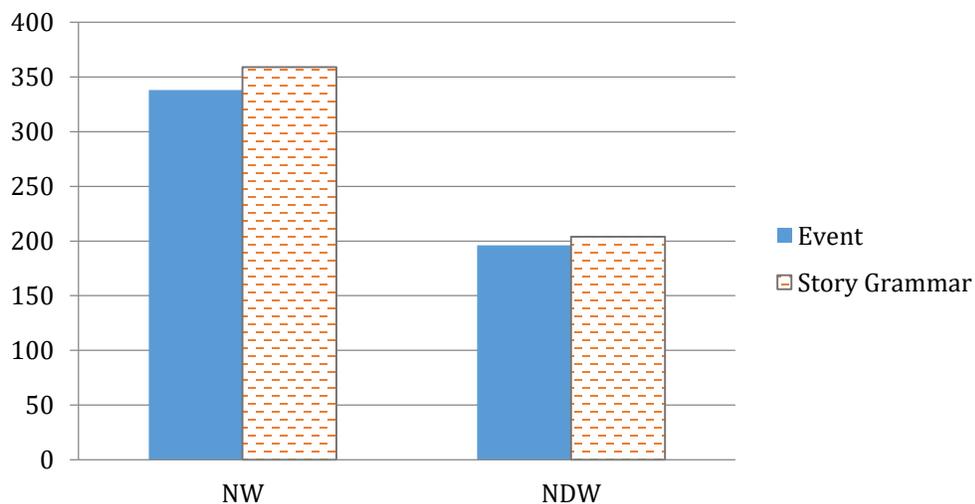
**Event narratives.** Eighty-six percent (26/30) of participant narratives produced in response to event commercials were categorized as event narratives. Four participants produced narratives exhibiting story grammar elements in response to the Budweiser “Brotherhood” commercial. Only narratives categorized as event narratives were included in the analyses of macrostructure.

Event narratives averaged 7.8 c-units per story (SD= 5.14, range =3-21, see Figure 3). The average number of events in each event narrative was 3.96 (SD= 1.7, range=0-7). The event narratives contained an average of 331.9 words per narrative (SD=51.57, range=35-255) and a mean of 196.2 different words per narrative (SD=22, range=27-108), see Figure 4. The mean subordination index present in event narratives was 2.84 (SD=0.9, range=1.71-5.33).

*Figure 3. Mean number c-units and average SI by narrative type*



*Figure 4. Mean number of words and different words by narrative type*

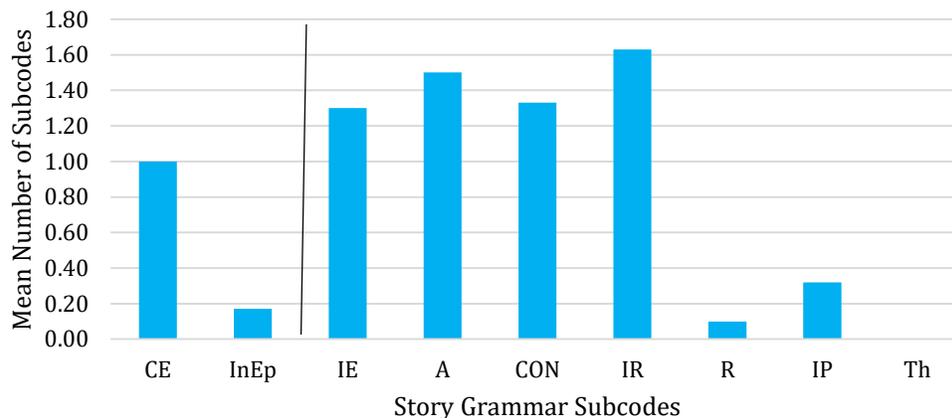


**Story Grammar.** Ninety-six percent (29/30) of participant narratives produced in response to story grammar commercials were categorized as story grammar. One participant produced a Level 4 narrative in response to the

Budweiser “Lost Dog” commercial. Only narratives categorized as story grammar narratives were included in the analyses of macrostructure.

Ninety-six percent (29/30) of narratives included at least one complete episodes (see Figure 3). The mean number of complete episodes in each narrative was 1 (SD=.37, range=0-2). Seventeen percent (5/30) of narratives contained an incomplete episode with an average of .17 incomplete episodes per narrative (SD=.38, range=0-1). Initiating events were evident in 29/30 narratives with an average of 1.3 initiating events per commercial (SD=.53, range=0-2). Ninety-three percent (28/30) of narratives contained actions with an average of 1.5 actions per narrative (SD=1.66, range=0-5). Consequences were evident in 29/30 narratives and there was an average of 1.33 consequences per commercial (SD=.66, range=0-3). There were internal responses in 23/30 narratives and an average of 1.63 internal responses per narrative (SD=1.69, range=0-7). Reactions were evident in 3/30 narratives and each narrative contained an average of 0.1 responses (SD=.31, range=0-1). There were internal plans in 9/30 narratives and an average of .32 internal plans per narrative (SD=.48, range=0-1).

Figure 5. Mean Number of Subcodes per Narrative



Story grammar narratives averaged 9.8 c-units per story ( $SD= 4.19$ , range = 2-24), see Figure 3. Story grammar narratives averaged 358.7 words per narrative ( $SD=55.2$ , range=49-249). The average number of different words contained in story grammar narratives was 204.3 ( $SD=21.54$ , range=36-120). The average subordination index present in story grammar narratives was 2.34 ( $SD=.66$ , range=1.56-3.0).

## Discussion

The purpose of this research was to evaluate the use of television commercials to elicit discourse samples. The analysis of the micro and macrostructure of commercials and narratives produced in response to a subset of commercials, suggests that narrative complexity increases in accordance with the complexity of the stimuli. The results from both studies indicate that the use of commercials to elicit discourse samples may provide a number of advantages.

The results from Study 1 support the use of commercials to elicit discourse samples. Despite their short length, the selected commercials exhibited an identifiable, and generally fairly sophisticated, narrative structure. The majority of the commercials had complete episodes, multiple episodes, and/or partial episodes. As indicated in Study 2, these commercials can be used to elicit similar discourse structures from adult participants. Another benefit of the use of commercials is the primary reliance on visual information to convey the story. Linguistic complexity was minimal as indicated by the inclusion of minimal dialogue, which might make it easier for those with communication impairments to follow the story displayed in each commercial. Additionally, the lack of dialogue could be advantageous for the use of commercials across cultures, as there is little need to comprehend the language in order to understand the story.

The results from Study 2 support the use of commercials to elicit a desired type of narrative discourse. The type of narratives elicited from participants were comparable to the commercials analyzed in Study 1. Event commercials typically elicited event narratives from participants with the exception of the commercial

Budweiser “Brotherhood.” Story grammar commercials also typically elicited story grammar narratives with the exception of the commercial Budweiser “Lost Dog.” The two exceptions were originally the commercials that required extensive deliberation between the primary investigator and supervising professor to reach a consensus on the narrative level. To increase the likelihood of facilitating a particular type of narrative, commercials with an easily agreed-upon narrative structure should be considered for elicitation stimuli.

Story grammar and event-structured commercials resulted in a range of syntactic and semantic productions. The types of narratives (event v. episodic) were relatively similar in regards to microstructure, suggesting that commercials can be selected based on the types of narratives that the experimenter or clinician is attempting to elicit. Although the narratives were short, they demonstrated complexity as indicated by the subordination index and the number of different words. Reliability of language sample analysis is associated with the length of the sample, raising concerns in the use of a single commercial narrative to measure expressive language. The collection of two to three narrative discourse samples to combine for analysis may provide more reliable results.

Because this was a pilot study there were a number of limitations to the research. There was a small sample size, so additional research would require expanding the participant number as well as expanding the number of commercials. Participants with communication impairments should also be included in the sample to assess the clinical utility of narratives elicited using television commercials.

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