Huh? There’s No Sound: Exploring the Cognitive Comprehension of Commercials

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Huh? There’s No Sound:
Exploring the Cognitive Comprehension of Commercials

by
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Huh? There’s No Sound: Exploring the Cognitive Comprehension of Commercials

To Father and Mother, for never losing faith in me and for their unconditional love

To Pop-Pop and Nana, for inspiring me to be something more and to make a difference in this world
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Abstract

The issue of language barrier and effective communication access has been rising in multicultural communication, especially within Deaf and Hard of Hearing communities. One major language barrier within the media for Deaf and Hard of Hearing community is the lack of captioning presence. This research uses a commercial video to test the cognitive comprehension differences between hearing and Deaf/Hard of Hearing individuals and collects the data through the use of surveys and questionnaires. Furthermore, this research also tests the desire to purchase said services or products with and without the language access that they require. The results prove that there is indeed a relationship between the presence and lack of effective communication access and the level of cognitive comprehension of said video commercial. Moreover, the results also suggest that the presence or lack of effective communication access do not play a significant role in desire to purchase said services or products.
Introduction

Senghas and Monaghan (2002) explain, “Because of their deafness, Deaf people have been marked as different and treated problematically by their hearing societies.” From the day Deaf people have been scientifically marked as different, the problems with communication access and the issue of language barriers have been a rising problem (Austin & Myers, 1984). Language barrier can be defined as an absence of communication between people because of either the language itself or a method of communicating the language. For instance, the lack of a sign language interpreter for a student in a hearing-dominant speaking classroom would be defined as a language barrier.

This absence of effective communication can be found in another issue that has been lurking around in the Deaf and Hard of Hearing communities and that is the lack of communication access to television commercials or advertising online due to the absence of captioning. This research explores the lack of effective communication or language access within a specific advertising medium: commercials.

Commercials come in a variety of forms such as: radio commercials, television commercials, and video advertisements found online. They all vary in terms of context, message delivery tactic, and audience. Even though all of these commercial mediums have an issue with effective communication access, this research focuses on the television commercial medium.
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Many Deaf individuals use American Sign Language (ASL) as their primary language and they communicate using it in their everyday lives. Hard of Hearing individuals, however, vary in their communication means. Some of these individuals have audio assistive devices such as hearing aids and cochlear implants that allow them to hear sound to a certain extent. This enables them to speak and hear at the best of their ability, even though some still use sign language. Deaf and Hard of Hearing individuals both heavily depend on visual cues such as gestures, facial expressions, and lip reading in their everyday lives. These individuals grow up being dependent on these visual cues and are, as a result, very limited in what they can watch on television and/or online, and have missed out on a lot of important information that could be understood through written or signed language. This results from the gap in communication research on access and barriers for the Deaf and Hard of Hearing. The gap in the aforementioned communication research includes several vital research studies that have not been conducted, such as, the impact the lack of effective communication access in commercials has on Deaf, Hard of Hearing individuals; the level of cognition or understanding of content in commercials; and whether the communication access plays a role in the desire to purchase the product or service shown in commercials. This research not only focuses on Deaf and Hard of Hearing individuals but hearing individuals as well, to explore further the impact of the lack of communication access.

This research compares the levels of cognition of hearing individuals with that of Deaf and Hard of Hearing when they view a video with and without the language access they require. For hearing people, language access that accompanies a video is sound (including sound effects and spoken language). For the Deaf and Hard of Hearing, language access that
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accompanies a video includes captions and subtitles. Not only do the Deaf and Hard of Hearing individuals use captioning and subtitles, they also depend on their ability to lip read. This research also explores whether these two groups of individuals have an increased desire to purchase the content shown within the commercial or video after viewing the media with the language access that they require.

Hypothesis

The main hypothesis of this study is that TV commercials with captioning and sound will be more effective in achieving their function of helping Deaf, Hard of Hearing, and hearing people, comprehend the message the company is trying to send, the product or service they want them to buy and convince the receivers that they really want the product or services. To study this hypothesis, this research will investigate three research questions and study both hearing and Deaf (and Hard of Hearing) persons:

1. What is the difference in levels of cognition of a commercial’s message for Deaf, Hard of Hearing, and hearing individuals when a commercial has sound and captioning, or no sound nor captioning? The research will ask a sample of Deaf, Hard of Hearing, and hearing people:

   a. Whether they believe that TV commercials lack the communication access (sound or captioning) they need.

   b. The degree to which they understand commercial messages in general.

   c. If they are able tell which company was responsible for a specific commercial that will be shown to them.

   d. Whether they understood the message that the company was sending in the specific
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  commercial shown to them.

e. The extent to which they believe that captioning or sound or lack of these in a specific commercial shown to them contributed to their comprehension of the commercials message.

f. Whether the presence of communication access (i.e., sound or captioning) made the specific commercial shown to them easier or harder to understand.

2. What is the difference in levels of cognition of a commercial as a whole for Deaf, Hard of Hearing, and hearing individuals when a commercial has communication access and lack of?

The research will ask a sample of Deaf, Hard of Hearing, and hearing people:

a. The degree to which they believe that TV commercials lack the communication access they need (sound or captioning).

b. The extent to which they understand commercials in general?

c. The degree to which they believe they understood the product or service shown in a specific commercial that will be shown to them.

d. Whether they are able to tell which company was responsible for a specific commercial that was shown to them.

e. The degree to which they understand the message that the company was trying to send in the specific commercial that was shown to them.

f. The degree to which their understanding of the specific commercial shown to them was
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improved or made more difficult because it had sound or captioning or lacked sound or captioning.

3. How do the levels of cognition impact purchase intentions of either hearing or Deaf and Hard of Hearing persons? (With better access to the content, do the individuals have an increase or decrease in desire of purchase?) The research will ask a sample of hearing, Deaf and Hard of Hearing persons:

a. Did the presence of communication access (sound or captioning) make them want to buy the product or service shown?

b. Did the lack of communication access (sound or captioning) make them less interested in the product or service shown?

c. Did they focus more on what was being said in the commercial because of the presence of communication access (sound or captioning)?

d. Did the lack of communication access (sound or captioning) make them NOT want to buy the product or service shown?

Literature Review

History

Television has been a huge part of our society since the 1950’s. It is vital for our educational means for children and adults alike. Education through television starts at home, when the children are young and growing. Children programs such as The Magic School Bus and Sesame Street are available for young growing children; however, language access through
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Captioning was initially inaccessible. It wasn’t until February 1977 that the Federal Communications Commission (FCC) allowed legible messages concerning emergency announcements for the Deaf and Hard of Hearing and other visually dependent viewers (Austin & Myers, 1984). Before then, there were no means of textual or signed language provided for the access of these visually dependent viewers. One month later, January of 1977, the FCC authorized closed captioning of TV programs for the benefit of the same population. Austin and Myers (1984) go on to explain that there was concern that the behavioral impact of television on these Deaf and Hard of Hearing viewers may be different than that of hearing persons. They found that Deaf persons extracted information from facial expressions and motor activities more than hearing individuals and that they may be prone to view the world more hostile than their hearing counterparts. After surveying a collection of approximately 2,400 owners of closed-captioning adapters, the FCC discovered that the results were positive and kept the authorization for the TV programs.

*Language Access & Cognition*

It’s amazing how the mind works; exploring the variety of activities it engages in just to do one simple task. Weisberg and Reeves (2013) explain that we all engage in different cognitive acts everyday such as saying “Hello, how are you?” to a friend, brushing one’s teeth or even remembering which books one needs to bring to class. Cognition is what allows us to operate in our everyday lives. Cognition is also responsible for the perception, translation and understanding of each and everything. It is also responsible for memory and every other mental process.
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In this research, an individual will have the cognitive ability to perceive and see the visual elements of the commercial or video shown, yes, but without the language access required. They will be able to perceive the images, translate them as best they can, but they will not be able to understand the complete content unless the language access is present. It will also depend on the message that is being sent by the commercial and the use of visual images, gestures, facial expressions and other nonverbal stimuli. These facts are kept in mind as the research is being conducted.

Comprehension and attitudes are a large part of this research as well. Magee (1988) explain that the attitudes towards advertising can be changed by the variation in stimulus used within. Applying this concept to this research, we can also explore the influence that the commercial or video has towards the individual when they are given the language access that they require. Being able to comprehend the commercial and allowing it to influence the attitude may have an impact on whether the viewer would be convinced to buy a product or service shown. Using humor or original commercial ideas may have an influence on the individual; however, the humor or original ideas may have a stronger influence with the language access that the individual requires. This is the reason one of the research questions focuses mainly on whether the language access plays a role with consumers’ decisions to purchase a product or service.

Theories & Ideologies

This research also explores the differences in multicultural communication and how communication comprehension plays a vital role in cognitive understanding; because of this we
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are able to apply some parts of general Linguistic Ideologies. Timothy Reagan (2001) explains that at the core of ideology are the beliefs and attitudes of an individual as a member of a group. In this case, it is the beliefs and attitudes of the Deaf, Hard of Hearing, and hearing prior to and after they complete the video survey experiment. The survey questions are designed to draw out the subjects’ thoughts and opinions, which allow the researcher to explore the subjects’ perceptions, ideals, attitudes, as well as their beliefs towards communication access within the commercial field. Another part of linguistic ideology focuses on the variation in ideas about speech and speech forms that can be applied to captioning and the transmission of the message to our subjects. Therefore, while the surveys were completed, the researcher kept a close eye on the variations that may play a role in the data results. Furthermore, Schieffelin and Woolard (1994) state that the area of linguistic ideology has no boundaries and may go on indefinitely.

Deaf Culture

Across all age groups, in the United States, approximately 1,000,000 people over 5 years of age are “functionally deaf” (Mitchell, 2005). Seemingly small, this portion of the population has its own culture and language. Ladd (2002) states “...most of us will have noticed that over the past 20 years, Deaf people themselves have become more visible.” Yes, Deaf people are finally being noticed through several different ways: word of mouth, friends of friends, interpreters, and the media, but they still aren’t given the respect or access they need. Deaf culture is finally receiving the recognition it has been seeking but it took a tremendous amount of energy and collaboration to make this happen. Though society now recognizes Deaf people
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and their Deaf culture, their language is still debated. American Sign Language, the primary
language used by signing Deaf and Hard of Hearing individuals in the United States and Canada,
is still not recognized as an official language. Although Deaf peoples are still fighting for their
rights with language and effective communication access, captioning, was a great step for Deaf
people and their culture because it made for easier communication access and access to
information that they were denied for a long period of time. This is the reason for the medium
choice in this research, commercials, and how captioning plays a role.

Captioning

Michel Chion (1990) discusses the theory that visual images and sound are two forms of
language and that both are needed in presentations to fully understand images with sound
such as TV commercials and films. This provides a theoretical basis for using captioning in
 commercials to be sure that the commercials communicate a clear and comprehensible
message to the Deaf and Hard of Hearing communities.

There is a subtle difference between “captioning” and “subtitles” that may contribute to
an individual’s comprehension of visual content. Subtitles are designed for hearing people to
help them understand the dialogue in a visual presentation. For example, the speaker may be
using a language, such as German, that the viewer does not understand, or the dialogue may be
mumbled by an actor, and consequently cannot be understood, so the words of the dialogue
appear in the screen. Captioning, on the other hand, includes displaying on the screen not only
the dialogue, but also other sounds that contribute to understanding the presentation. For
example, in addition to the dialogue in a scene, there may be vocal music, musical sounds that
set a mood, or background sounds such as sirens. Captioning attempts to display or describe all sounds visually.

Although captioning may be helpful to some, it may be distracting to others. Norwood (1976) argued that captions on television screens are distracting to at least 10% of the viewers. As a result, companies were initially reluctant to add captioning to their shows or commercials. However, several years later in April of 1981, the Federal Communications Commission authorized ‘closed-captioning’ of TV programs for the benefit of the hearing-impaired. This was when hope blossomed for those who longed for access to comprehension of media. This hope faltered after research showed that this minority group, approximately 1.9 million individuals in U.S. and Canada, still showed frustration with the lack of access (Sillman, 1984). This frustration will make an impact on future generations; 85% of children in the United States watch television everyday. By the time they graduate from high school, most children will have watched at least 22,000 hours of television (NCI, 1983) and this shows that television plays a vital role in the learning process of these children.

**Past Research**

Deaf and Hard of Hearing individuals have a different learning experience because without captioning, they are not able to take in language spoken on television and allow their cognitive abilities do the rest in translating the language into knowledge. This results in these individuals having hindered reading and English-literacy skills. As a result, they grow up having difficulties with English syntax and learning vocabulary. Approximately 30% of Deaf students are functionally illiterate when they leave school, compared to less than 1% of hearing students
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(Paul & Jackson, 1993).

Since then, there have been studies that prove the usefulness of captioning for understanding TV commercials. Inoue (2012) gave TV commercials to Deaf and hearing-impaired people in Japan. The same commercials were presented with and without captioning. The subjects rated captioned commercials highly favorably, highly comprehensible, and as having moderate impact on them. On the other hand, they rated uncaptioned commercials very low in favorability, comprehension, and impact. When asked to compare the captioned and uncaptioned commercials, 96% of the subjects thought captioned commercials were better, 97% thought that captioned commercials were easier to understand, and 94% said they regarded the companies that used captioning very highly. Further, 91% said that companies that used captioned commercials deserved some social recognition. Open-ended responses by the subjects showed that using captioned commercials were seen to be helpful in communicating with hearing persons. Here are some examples of what people said:

“They would increase the situations where you can share topics of conversations with friends and acquaintances with normal hearing.” (An elderly hearing disabled male in his 70s)

“Sometimes my family seems to be having so much fun chatting away about how such-and-such commercial is funny and mimicking the voices, and that would make me feel left out because I couldn’t join the conversation...If commercials were captioned, that would remedy the problem and make things more fun.” (A hearing disabled female in her 20s)
Burton (2012) showed hearing, Deaf, and Hard of Hearing people 20 TV commercials with and without captioning. She asked them four questions: what product or service was being sold, what the slogan was, and what message the creators was trying to send. They were asked also whether the captioning had changed the meaning of the commercial for them. The impact of captioning depended on the type of commercial and whether it was visually clear without captioning or sound. Of the 20 commercials, only three did not seem to improve understanding of meaning when captioning was added. In six of the 20 commercials, captioning helped to convince the viewers to purchase the products; without captioning the viewers were less convinced. Captioning also seemed to help viewers to retain the slogan of the commercial’s company.

External Factors

There are several external factors that affect the way a TV commercial is perceived and understood by the intended buying audience. To understand these, we need to consider the function of a commercial and the target population or audience of the commercial.

There are two basic functions of a commercial. First, the commercial must help the person to understand what the person would gain if the product or service were to be purchased. Second, the commercial must convince the person that this gain is something the person must have or must do and therefore must buy. The commercial does not always have to help the person understand the product or service itself. Rather, the person has to understand the benefit to him or herself if the person owned the product or used the service.
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For example, Weight Watchers is advertised as a service that will help the person look better to others and feel better about themselves. The commercial does not go into details about how one has to attend Weight Watchers meetings, learn the point value of foodies, plan meals, etc. The commercial focused on the outcome of looking better and feeling better about yourself. It then tries to convince you that this is surely what you need to do. It targets a specific audience right after holidays where people eat a lot like Thanksgiving Day and Christmas Holidays. These are times when people feel guilty for over eating and when their clothing starts to feel tight; hence, the commercial convinces the person that they really want and need to use the Weight Watchers service to help them look and feel better. (No mention is made, of course, that the person could achieve the same effect on their own by eating less and exercising more without using Weight Watchers services.)

Similarly, Apple commercials focus on a person’s experiences once the person owns an Apple device. The commercials do not try to communicate the ways in which Apple’s hardware and operating systems are better. They also mention nothing about processors or computer codes. The commercials show all of the fun things you can do if you have an iPhone or an iPad. People are shown having fun and doing some amazing and clever things with an Apple device. The commercials communicate the message that the product will make consumers that buy it obtain happy experiences and that everyone should have one.

To achieve these two functions of helping the person understand the gain (or benefit) and convincing a person that these gains or benefits are what the person really wants, a TV commercial has to use or consider several different external factors:
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- **Visual images.** The visual images have to contribute to the two functions. The question for the Deaf and Hard of Hearing is whether these visual images communicate as intended. Deaf and Hard of Hearing may have backgrounds that are different from the hearing majority and so they may perceive and/or understand the visual images differently, therefore making the commercial's visual images less effective for them.

- **Prior level of language understanding of the audience.** Usually, a TV commercial will have voices that talk over the images. There are people talking or words written on the screen. The voices of people talking may supplement the words appearing on the screen. Also, people may be talking in the commercial but their faces are not always visible so lip reading and other comprehension tactics by the Deaf and Hard of Hearing cannot be used. The language experience of Deaf persons is different. They communicate by sign language and that has a different syntax than Standard English. English words may not have signs in their language. The vocabularies of hearing and non-hearing persons may be different. These are external factors that need to be considered when designing and implementing a TV commercial that is heavily dependent on language to achieve its two functions.

- **Cognition Abilities.** The cognition abilities of Deaf and Hard of Hearing may differ from their hearing counterparts. The Deaf and Hard of Hearing individuals use different parts of their brain because they depend more on visual images rather than auditory cues. This would cause a difference in perception between the two parties and will have an influence on the end result of this study. For that reason, this should be considered as an external factor in this study.
• **Level of hearing.** A TV commercial is more than visual images. Not only is there usually spoken language but also sounds—music or background sounds—that contribute to the overall effectiveness of the commercial. The sounds enhance the impact of the commercial's content for hearing or partially hearing purposes. Commercials for sports are good examples. The sounds build an excitement in the viewer and attempts to convince the viewer that the viewer must watch that sporting event on TV or buy tickets to see it in person. A question is whether a person who cannot hear will be affected by the commercial in the same way as a hearing or Hard of Hearing person.

• **Level of captioning.** Captions can be added to a commercial. It can be a simple subtitle or go beyond that to explain the sounds that others are hearing. It can go beyond the normal words that are printed on the screen for hearing people by including what the voices are saying and the sound context is. So there is a question of what level of captioning will enhance the commercial to achieve its two functions.

**Captioning rate.** Captioning something can sometimes be too rapid or too slow to effectively communicate the message or translation. Captions in live events, for example, may not keep up with the voices and actions so that real time communication is lost. In other contexts, captions may be too rapid to be read effectively by Deaf persons who are not rapid readers. Sometimes captions are not accurate (do not match the words spoken) or the caption fails to identify the speaker so it is difficult to know who says what. Hearing persons can tell from the sound tone of a voice, and determine who is speaking and the emotion of the speaker. Captions do not easily convey this information. Thus the rate and manner of captioning may be another factor in whether the TV commercial is effective in fulfilling its two basic functions.

These are complex external factors and require several different research studies rather
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than one study. The influence of some of the factors on the effectiveness of TV commercials for the Deaf and Hard of Hearing may require controlled experiments in a laboratory. This thesis makes only a limited and first basic step toward answering some of the questions raised. The study controls the presence of captioning and ask hearing and Deaf viewers their perceptions of the content of the commercial they view and their perceptions of the effectiveness of the commercial.

Methodology

Little research goes into how cognition comprehension affect desires to purchase. Seeing that the purpose of this study is to analyze the cognition levels between two parties: the Deaf, Hard of Hearing and the hearing, one video commercial was chosen, approximately 30 seconds in length and then was made into two other versions—one without sound and another one with captions. There were three versions of the commercial including one being unaltered. In order to appropriately compare the two subject groups. There were four experimental groups. The sample size was 60 unique individuals divided into four groups of 15. Two randomly chosen groups of 15 who are hearing, and another randomly chosen two groups of 15 who are Deaf and Hard of Hearing were chosen. They all experience different versions of the video without viewing any other version of the video to remain consistent and have results with minimal external factors of influence. The subjects were primarily students and faculty from classes at the Rochester Institute of Technology. Other subjects needed were found through word of mouth and snowball sampling. These additional subjects were found through existing study subjects’ friends and/or acquaintances. This led the sampling group to achieve the overall number of 79 total subjects.
A group of 34 hearing individuals, with ages ranging from 18-65, were given a survey exploring their feelings towards commercials and language access prior to the experiment. They were then shown the video without sound, and then given a conclusion questionnaire. Another group of 15 hearing individuals, with ages ranging from 18-65 were given the same survey exploring their feelings towards commercials and language access. They were then shown an unaltered video with sound, and then given a conclusion questionnaire. The same unaltered video/commercial was shown to a group of 15 Deaf and Hard of Hearing individuals first as well as the survey prior to the video. They too were then given a conclusion questionnaire. Finally, another group of 15 Deaf and Hard of Hearing individuals were given the same survey as the other three groups prior to viewing the video/commercial with captions and then given a conclusion questionnaire.

The survey consists of six questions that explore their feelings towards current commercial efforts with communication access prior to viewing the video commercial. The questionnaire consists of 11 questions that explore the subject’s feelings after viewing the commercial video with the random scenario chosen (communication access or lack of).

**Commercial Video**

A 30 second video created by the NOS Energy Drink company was chosen for this study. There are several reasons for this video commercial choice. One reason is because of the commercial’s subtle visual images, which feature an old man that speaks throughout the commercial and is transformed back to his younger self towards the conclusion of the video. There are minimal visual. The video only shows the man in a locker room with a NOS energy
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drink in hand. The minimization in visuals help subjects focus more on what is being said and whether that had an effect on their comprehension of the message. Another reason for this choice is that the captioning has been done by the company themselves and is proven to be accurate. Thirdly, this video is readily available online on YouTube with the option of removing sound or captioning. To assist further understanding of the message of the video, the context of the video is provided along with some screenshots:

```
Man: 6 jobs, 9 cars, 80 summers, and you’re done.
Man: Earn some scars.
Man: Break records, bones, and hearts.
Man: You only get one shot, so bring a rocket launcher.
Man: Remember, you only live once.
```

*(View Appendix II for video stills)*

At the conclusion of this experiment, results from the surveys and questionnaire were then collected and put into a data sheet with all of the information, including age, gender, whether they understood the message or not, and level of cognition. The data from the different parties were evaluated and compared to learn several things—difference in level of cognition, whether they felt the need for communication access, and if they felt an increased or decreased desire to purchase the product or service shown.

**Results**

SPSS was used to analyze the data. After running several correlation tests, it was discovered that there were no significant difference within the data. One minor limitation was due to the questionnaire not consisting of in-depth comprehension questions that would allow
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for a more quantitative analysis. Instead, we are to view the data in a more qualitative aspect.

Another limitation that reflects throughout the data was that more hearing individuals were able to take the test than Deaf and Hard of Hearing. The end result includes 49 hearing individuals and 30 Deaf and Hard of Hearing.

First, the ages were recorded and analyzed.

| AGE |
|-----------------------------|---|---|---|---|
| GROUPS | Frequency | Percent | Valid Percent | Cumulative Percent |
| No Sound | Valid | 19-21 | 29 | 59.2 | 59.2 | 59.2 |
| 22-24 | 13 | 26.5 | 26.5 | 85.7 |
| 25-27 | 3 | 6.1 | 6.1 | 91.8 |
| 28+ | 4 | 8.2 | 8.2 | 100.0 |
| Total | 49 | 100.0 | 100.0 |
| Sound | Valid | 19-21 | 16 | 53.3 | 53.3 |
| 22-24 | 8 | 26.7 | 26.7 | 80.0 |
| 25-27 | 5 | 16.7 | 16.7 | 96.7 |
| 28+ | 1 | 3.3 | 3.3 | 100.0 |
| Total | 30 | 100.0 | 100.0 |

In both of the groups (communication access and lack thereof) the majority was the 19-21 age group because the research was conducted in classrooms with students and their acquaintances. This fact adds to the variation of the results for many reasons. One may be that they have experienced less commercial viewing in their lifetime than the other age groups.

Second, out of the groups (communication access and lack thereof), gender was also observed.
In the group that had lack of communication access, the number of females outnumbers the males by 9. This resulted in a 40.8% male group and a 59.2% female group. In the group that had communication access, the number of females also outnumbers the males by 8. This resulted in a 36.7% male group and a 63.3% female group. This fact is also to be considered throughout the results because perceptions of commercials among genders may vary.

Three out of eleven questions from the questionnaire were chosen for their results because they would best answer the research questions. They were questions number six, seven, and ten.

Question number six asked, “Did you understand the message that the company was trying to send?” The majority, 51%, of the group with no communication access (sound nor captioning) answered ‘Somewhat’. Because the commercial video had minimal visuals, they were able to draw several conclusions after viewing the commercial. This rationale leads to the observation of the second most answer which was ‘Yes’ with 30.6%. The group was able to somewhat or fully understand the message that the company was trying to send.
The majority of the group with communication access (captioning and sound) answered ‘Yes’ (56.7%) which was the predicted outcome. This portion proves that the message of the commercial with the necessary communication access, whether it be captioning or sound, is easier to comprehend by both parties.

Question seven explored more into how much the subjects felt like they understood the
commercial in general. The group with no communication access answered ‘75%’ the most but with second and third answers of ‘50%’ and ‘25%’, respectively. Interestingly enough, even with the lack of sound or captioning, the majority of subjects still felt like they understood 75%. This result is probably due to their ability to perceive images and draw details such as the male in the commercial video ‘punching’ the air and looking at the camera with a facial expression that could be described as ‘gnarly’. Another major factor to consider would be the fact that the commercial ended with the NOS energy drink company logo on it. The subjects were probably able to perceive the company and make connections with what the commercial depicted.

The group that had communication access answered ‘100%’ and ‘75%’ for an average percentage of 80%. The presence of captioning and sound enabled the subjects to understand literal things that were being said in the commercial and draw their own conclusions of the message.

<table>
<thead>
<tr>
<th>GROUPS</th>
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<th>Percent</th>
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<th>Cumulative Percent</th>
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Question 10 focused more on purchase intention and whether or not the presence or lack of communication access had an impact on their desire to purchase. Interestingly, the
majority of the group with no communication access chose ‘No’ as their answer. This fact proves that out of the 49 subjects, 22 (44.9%) did not feel that the lack of communication access made a difference in their desire to purchase.

The majority of the group that had communication access (43.3%) also answered ‘No’ with a close second answer of ‘Somewhat’ (33.3%). This fact proves that even with communication access, their desire to purchase was not increased. In result, the presence or lack of communication access did not have an impact on their desire to purchase. A factor to consider for this would be the commercial chosen and the product that it depicted. The subject base may not have been interested in the product that it showed and so felt indifferent towards purchasing it.

(Refer to Appendix VI for the data spreadsheet with all of the answers to the all of the questions on the questionnaire.)

Discussion

Research Question 1

What is the difference in levels of cognition of a commercial’s message for Deaf, Hard of Hearing, and hearing individuals when a commercial has sound and no sound?

The results indicate that the group with no communication access did not completely understand the message that the company was trying to send. The majority of the group answered ‘Somewhat’ which leads to the conclusion that the subjects may have understood partial aspects of the commercial. The commercial video itself was not very difficult to watch, the visuals were minimal and easy on the eyes. The message, however, lies in the verbal
context of the video, which the subjects would be able to draw from if the video did indeed have sound and/or captioning. However, at the end of the commercial video, the company displayed their logo along with the tagline, “You Only Live NOS,” (Refer to Appendix II) which sums up the basic purpose of the message. So, even though the subjects did not have the communication access that they needed to completely understand the message of the commercial, they were able to draw conclusions from the tagline alone. On the other hand, the majority (56.7%) of the group that viewed the commercial with communication access answered ‘Yes’ and proved that they understood the message that was being sent by the company. In this scenario, it is apparent that the group that had communication access was able to understand the message and draw their own conclusions about the video. With the presence of sound and captioning, the subjects were able to understand exactly what the actor was saying. Thus, they understood what the actor was going through and how the energy drinks “helped” him throughout his life.

Research Question 2

What is the difference in levels of cognition of a commercial for Deaf, Hard of Hearing, and hearing individuals when a commercial is unaltered (i.e., without captioning and sound) and when it is altered to have captions along with sound?

The results indicate that the group with the lack of communication access had a variety of answers towards how much they felt like they understood the commercial. The top answer however, was 75%, which was interesting seeing how they did not have the communication access that they needed but felt like they still understood the video. The researcher believes the factors aforementioned played a role in the results for this question. They were able to
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visually conceive most of the message but not entirely. The subjects felt like they were able to understand the majority of the video because the commercial was fairly simple and to the point. A factor to consider would be the fact that the Deaf and Hard of Hearing are used to watching commercials in general without the communication access and so are used to drawing assumptions about the video. The Deaf and Hard of Hearing subjects may have felt like they understood the commercial from these assumptions. Another factor to consider would be the fact that this group of no communication access had a larger number of hearing subjects who may have already seen the video with sound and were able to conclude what the video was about. The group with the communication access that they needed had a variety of answers as well but the majority (50%) and the second most (30%) answered either that they understood the commercial completely or 75% of the commercial which is a combined percentage of 80%. They were able to view the commercial with captioning and sound and take in every aspect of the video and put everything together. In conclusion, the results suggest that with the presence of communication access, the subjects are able to understand the commercial from 75% to 100% and also suggest that commercials are more effective with sound and captioning.

Research Question 3

How do the levels of cognition impact purchase intentions of either hearing or deaf and Hard of Hearing persons? (With better access to the content, do the individuals have an increase or decrease in desire of purchase?)

The results indicate that the group with no communication access felt no increase or decrease in desire to purchase. The majority of the answers from both groups pointed towards ‘No’, this fact makes it apparent that the lack of communication access does not play a pivotal
role in purchase intention. There are several factors that come in play with the results of this question. One would be that the subjects that were chosen for this study just simply did not appreciate or have any interest in the product that was shown in the commercial. The subjects may not have been energy drink enthusiasts and so do not care much for the product that was being advertised and were not influenced by the lack of communication access. Another factor to consider would be that the majority of the subjects in this group already felt like they understood 50-75% of the commercial and so the lack of communication access may not have been noticed and was not crucial to their decision regarding purchase. The group with communication access also did not feel that understanding the commercial had an impact on their desire to purchase for similar reasons as the group that had a lack of communication access. The subjects simply may not have been interested in the product at all. However, in both groups, there was a small percentage (23.3% & 26.7%) that felt like the communication access did play a role in their buying intentions. With this in mind, the commercials that include communication access by major companies in our society still play a role in a smaller group of the general population.

**Conclusion**

The results indicate that the presence of communication access does play a role in the cognitive comprehension of the content and the message. The results also show the fact that subjects feel like they understand the commercial and what the message is trying to send better with captioning and sound. These two results combined support the theory that individuals have an increased cognitive comprehension of commercials when they are provided
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the communication access necessary to do so. However, the results also indicate the fact that the subjects chosen for this study did not feel that the presence or lack of communication access played a role in their buying intentions or desire to purchase the product shown. These results cannot be generalized to other commercials or videos due to the specific commercial chosen and the specific subject groups chosen for this study. Effective communication access should be considered for any commercials created by companies to ensure complete understanding of the commercial and the message it tries to send.

This study had some limitations. The study answered questions regarding how much subjects felt like they understood the commercial and its message, but does not allow the results to be further analyzed for focus on specific cognition comprehension, for example: the exact spoken words and their influences or what the purposes of the images shown throughout the videos are. However, this research provides the basis for future research with the results it has gathered and allows further in-depth analysis. The research also does not give results that prove that communication access is absolutely necessary for complete understanding but does provide support for further research. The results also suggest that there is indeed a group of people that experience greater comprehensive understanding of the commercial and the message with the presence of captioning and sound. Another limitation would be that the study does not analyze why the company chose the specific message or tactic of message delivery to be shown to the consumers. The study also does not explore the reasoning as to why the communication access or lack thereof did not have an impact on buying intentions. The results in this study suggest that there is an underlying reason for the indifference in purchase intention even with the lack of communication access and that is the lack of interest in the
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product that is shown in the commercial. The biggest limitation in this study would be that the results were not separated between the Deaf, Hard of Hearing and hearing subjects. If the results were separated into individual groups, the results would be more accurate and focus on results made by specific parties. There would be separate data for each of the groups and their answers could be analyzed and conclusions could be drawn from them.

Further research could investigate specific aspects of the commercial and their impact on those who view it with or without sound and captioning. These specific aspects could include the coloring and filtration used, the message delivery tactic used, the words that were chosen for the actor to say, and the product placement. For example, a new experiment focusing on the coloring and filtration could lead to discoveries about how adjusting the colors or adding a filter to a video clip changes the perspective of those watching it. For instance, if a shadowed filter were to be added to a clip, it would depict a darker feel that would be suited for a horror theme. This darker feel could lead the viewers to feel scared of the clip and finally lead to their ultimate decision about the clip. Another experiment focusing on the very words that are spoken by the actor in a commercial could analyze the meaning behind the words and why each word was chosen for the script. For example, in this study the actor in the video said this line, “You Only Live Once,” and then again at the ending but changed “Once” to “NOS”.

Researchers could draw the fact that the line “You Only Live Once” has been a popular saying among the younger generations in the past year, and how using this line would appeal to this certain younger audience. These aspects could expand into their own research entirely and explore more the marketing design field and assist future advertisers. Cultural cues could also be part of future research. Whether it is symbolism or placements of an aspect of a culture,
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Further research into this would provide a stronger understanding of how powerful these small cues are in comprehension or perception of the audience. Another aspect that could be further analyzed would be the captioning used in the video. There are many different ways to analyze the captioning; they could include captioning speed rate, style of captions as in color, size, and font, and textual language. All of these parts of captioning would make an impact on the results. If one considers captioning rate as an example, different rates in captioning would make it easier or harder for the viewer to read. Faster rates of captioning may cause the reader to miss out on information because they are not able to keep up with the speed of the text. This factor would play a role in the cognitive comprehension of the viewer and lead to different results. Furthermore, cognitive abilities could also be considered for future research because Deaf and Hard of Hearing individuals use different parts of the brain because of their sensory abilities. Deaf and Hard of Hearing individuals focus more on visual images rather than auditory cues and result in a different perception than their hearing counterparts. This could lead to a research that would focus more on visual images and the impact they have on the audience. Analyzing why the companies chose these images and whether they were aware of its impact or not would provide significant data for marketers. For instance, in this research, the NOS energy drink can was visible almost throughout the entire video. Research could focus on how long the image was visible and how that made an impact on the viewers perception of the video. Perhaps the longer the image was visible, the more the viewer had the image stay in their heads. Further research could also include in-depth focus groups that discuss commercials and communication access and allow the researcher to draw conclusions from the subjects as they discuss personal experiences. Personal experiences vary from individuals and could lead to
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more in-depth findings and conclusions. For example, one individual may have felt that the lack of captioning made a huge difference in their perception of a particular video and led them to not pay attention to the video and its messages whilst another individual did not mind the lack of communication access and focused more on the images and drew their own conclusions about the messages. Past researches and data on any relevant topic would be beneficial to study as well. For instance, perhaps there are more past research on images within advertising videos and future researchers can take advantage of that data and apply it to their own research. Future research should also study a broader group and cover a larger number of subjects and collect results from more individuals to solidify the research. The more subjects in a research, the more analytical and accurate the data would be. Another study could focus more on the subjects and analyze their backgrounds and their language abilities. There is a wide variation within the Deaf and Hard of Hearing as well as the hearing. Their primary language choice and knowledge of culture could play a role in their answers and in overall results. Their education and experience growing up would also be significant data regarding this or relevant studies. Not only would their education and experience growing up be significant but also their gender. Males and females would experience different cognitive processes while viewing a commercial. For example, in this video, the actor is shown shirtless and grows into a younger and buff version of him. Males that view this would relate to the actor and may want what the actor has or has gone through. This would change their perception of the product and may lead them to be more interested in how the product had changed others’ lives. On the other hand, females that view this video may find the shirtless male attractive and have their perceptions changed towards the product. Females also may feel that if they see other males that drink that
same product, they would think back to this commercial and find them attractive. Other language or communication methods such as lip-reading, sit-com, and gestural cues could also be included in future research. Knowledge and/or usage of these other communication methods could play a role in their answers to any relevant studies. Lip reading is a big part of Deaf and Hard of Hearing individuals in our society and would make for a good research study. Research that shows how much these individuals can comprehend by just lip reading would lead to significant data that would be beneficial to this study. Not only can the results from this study or similar studies that happen here in the United States be compared to each other, but they can also be compared with results from other countries. If comparison of results were to happen internationally, the languages used in each study could also be examined and used for future benefit. Cross-examination of different languages would provide with an abstract perception of the research study and lead to more significant data that can be used by future researchers.

All in all, this study has supported the fact that effective communication access does indeed have an impact on cognitive comprehension of Deaf, Hard of Hearing, and hearing audiences in commercials. It also encourages future research to explore more in the areas of comprehension and communication access within the advertising and marketing field of research.
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References


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Appendix I

Original Layout of Study

**Video with sound (Unaltered Original)**
Hearing: Group 1; N= 15

**Video without sound (Sound Muted)**
Hearing: Group 2; N= 15

**Video with sound (Unaltered Original)**
Deaf and Hard of Hearing: Group 3; N= 15

**Video without sound and captioned (Sound Muted; Captions Added)**
Deaf and Hard of Hearing: Group 4; N= 15

Actual Layout of Study

**Video with sound (Unaltered Original)**
Hearing: Group 1; N= 15

**Video without sound (Sound Muted)**
Hearing: Group 2; N= 34

**Video with sound (Unaltered Original)**
Deaf and Hard of Hearing: Group 3; N= 15

**Video without sound and captioned (Sound Muted; Captions Added)**
Deaf and Hard of Hearing: Group 4; N= 15
Appendix II

NOS® Energy Drink Commercial - You Only Live NOS
Appendix II Continued

NOS® Energy Drink Commercial - You Only Live NOS :30

YOU ONLY LIVE NOS®
HIGH PERFORMANCE ENERGY DRINK
NOS.COM

NOS® Energy Drink Commercial - You Only Live NOS :30

NOS® Energy Drink Commercial - You Only Live NOS :30
Appendix III

Survey
(given to all groups prior to video commercial)

. 1) How often do you pay attention to TV commercials?
   A. 0%   B. 25%   C. 50%   D. 75%   E. 100%

. 2) How often do you feel that TV commercials lack the communication access you need (sound or captioning)?
   A. Never   B. Rarely   C. Sometimes   D. Often   E. Always

. e) How much do you feel like you understand commercials in general?
   A. 0%   B. 25%   C. 50%   D. 75%   E. 100%

. 5) Do you feel that commercials need improvements regarding communication access (sound or captioning)?
   A. No   B. Sometimes   C. Yes

. 6) Do you feel that watching a commercial with the communication access that you need (sound or captioning) improve the chances of you purchasing the product or service shown?
   A. Never   B. Rarely   C. Sometimes   D. Often   E. Always
Appendix IV

Questionnaire
(Given to Groups 1 & 4; groups with the communication access they need)


2) Of what gender are you? (Circle One) M F

3) Are you Deaf/Hard of Hearing or hearing? (Circle One) Deaf/HoH Hearing

4) Which of the following best describes how much you felt you understood about the product or service shown in the commercial you recently watched?
   A. 0%  B. 25%  C. 50%  D. 75%  E. 100%

5) Were you able to tell which company was responsible for the commercial?
   A. Yes  B. No

6) Did you understand the message that the company was trying to send?
   A. Yes  B. Somewhat  D. No

7) Which of the following best describes how much you felt like you understood the commercial because it had sound or captioning?
   a. 0%  b. 25%  c. 50%  d. 75%  e. 100%

8) Did the presence of communication access (sound or captioning) make the commercial easier to understand?
   A. Yes  B. Somewhat  D. No

9) Did the presence of communication access (sound or captioning) make you more interested in the product or service shown?
   A. Yes  B. Somewhat  D. No

10) Did the presence of communication access (sound or captioning) make you want to buy the product or service shown?
   A. Yes  B. Somewhat  D. No

11) Did you focus more on what was being said in the commercial because of the presence of communication access (sound or captioning)?
   A. Yes  B. Somewhat  D. No
Appendix IV Continued

Questionnaire
*(Given to Groups 2 & 3; groups without the communication access they need)*


. 2) Of what gender are you? (Circle One)  M  F

. 3) Which of the following best describes how much you felt you understood about the product or service shown in the commercial you recently watched?
   A. 0%  B. 25%  C. 50%  D. 75%  E. 100%

. 4) Were you able to tell which company was responsible for the commercial?
   A. Yes  B. No

. 5) Did you understand the message that the company was trying to send?
   A. Yes  B. Somewhat  D. No

. 6) Which of the following best describes how much you felt like you understood the commercial because it lacked sound or captioning?
   a. 0%  b. 25%  c. 50%  d. 75%  e. 100%

. 7) Did the lack of communication access (sound or captioning) make the commercial harder to understand?
   A. Yes  B. Somewhat  D. No

. 8) Did the lack of communication access (sound or captioning) make you less interested in the product or service shown?
   A. Yes  B. Somewhat  D. No

. 9) Did the lack of communication access (sound or captioning) make you NOT want to buy the product or service shown?
   A. Yes  B. Somewhat  D. No

. 10) Did the lack of communication access (sound or captioning) make you focus on other things (ie; visuals, movements, etc)?
    A. Yes  B. Somewhat  D. No
## Appendix V

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Huh? There’s No Sound: Exploring the Cognitive Comprehension of Commercials

### Appendix V Continued

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Appendix V Continued

Graphs of Data

No Sound

Did you understand the message that the company was trying to send?
Appendix V Continued

Which of the following best describes how much you felt like you understood the commercial because it had or lacked sound or captioning?

GROUPS: No Sound

Did the lack of or presence of communication access make you less interested in the product or service shown?

GROUPS: No Sound
Huh? There’s No Sound: Exploring the Cognitive Comprehension of Commercials

Appendix V Continued

Sound

Did you understand the message that the company was trying to send?

AGE
GROUPS: Sound

Did you understand the message that the company was trying to send?

GROUPS: Sound

Frequency

AGE

Frequency

Yes
No
Somewhat
Huh? There’s No Sound: Exploring the Cognitive Comprehension of Commercials

Appendix V Continued

Which of the following best describes how much you felt like you understood the commercial because it had or lacked sound or captioning?

GROUP: Sound

Did the lack of or presence of communication access make you less interested in the product or service shown?

GROUP: Sound
Appendix VI
Disclaimer & Consent Forms

Department of Communication, APR – Senior Thesis

Purpose

As part of the requirements for the Advertising and Public Relations degree at RIT, I have to carry out a senior thesis research study. The aim of this study is to analyze cognitive levels of commercials regarding Deaf and Hard of Hearing individuals as well as hearing.

Information

This study will involve a brief survey that you will conduct; followed with a 20-30 second commercial video that will be shown to you. After viewing the video, you will then answer the questionnaire provided. You have been asked because you are generally suitable to provide data for my study.

Your participation will be voluntary and you have the option of withdrawing before the study commences and/or discontinuing after data collection has started. I ensure that there will be no clues to your identity that will appear in the thesis. Any extracts from what you say or do that are a part of this study will be entirely anonymous. The data will be kept confidential for the duration of the study. On completion of the thesis, they will be retained for a further six months and then destroyed.

The results from this study will be presented in the thesis and will also be seen by my supervisor, a second marker and an external examiner. Future students on the course may also read the thesis. The study may be published in a research journal. I don’t envisage any negative consequences for you in taking part. It is possible that talking about your experience in this way may cause some distress.

At the end of the procedure, I will collect the data and you may keep this sheet.

The Department of Communication, Institutional Review Board and the Office of Human Subjects Research must give approval before studies like this may take place. If you need any further information, you can contact me: Blake Nitko, (520) 425-4924, and ben3438@rit.edu.

If you agree to take part in the study, please sign the consent form overleaf.
Appendix VIII Continued

Consent Form

I, ______________________, agree to participate in Blake Nitko’s research study.

The purpose and nature of the study has been explained to me in writing.

I am participating voluntarily.

I give permission for my data with Blake Nitko to be collected and used.

I understand that I can withdraw from the study, without repercussions, at any time, whether before it starts or while I am participating.

I understand that anonymity will be ensured in the write-up.

I understand that data from this study may be quoted in the thesis and any subsequent publications.

Signed ______________________  Date__________________