The Effect of Using “Um” and “Uh” on the Perceived Intelligence of a Speaker

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Abstract

In this study we sought to better understand the relationship between disfluencies and perceived intelligence. It is generally accepted that disfluencies such as “um” and “uh” indicate messages to a listener. In the current study, we examined how the use of “um” and “uh” impact the perceived intelligence of a speaker. We found that intelligence was not impacted by the use of “um” and “uh.” However, we found that filler words such as “um” and “uh” do affect other aspects of speaking such as perceived preparedness, effectiveness at public speaking, and ease of understanding by a listener.

*Keywords:* disfluencies, intelligence, speech, language
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Speech is a distinctive phenomenon, which arguably occurs only among the human species. Humans have made language into a tool for which there are specific rules and consequences. Particularly, humans are responsible for creating the basic foundations of language rules such as syntax and pragmatics. All of these rules and more, have shaped human language and help to drive appropriate communications between individuals. Over the course of history, certain words and phrases have become indicators for underlying messages and meanings. Although humankind has developed complex and meaningful communication in the form of language, we have still not mastered our craft. People pause, stumble over their words, and use disfluencies such as “um” and “uh.” In this study we examined the words “um” and “uh” and how these words may affect the level of perceived intelligence of a speaker.

Over time, humans have been able to utilize the tools of language in mainly two ways, through verbal and written communication. Speech, both written and oral has been the primary subject of many scientific research studies because of its importance in understanding cultures and each other. One interesting variable in relation to speech is that of intelligence. Intelligence can be conveyed through both verbal and written communication; however, because written language is typically edited and arranged with thoughtful intent there is a unique advantage for a writer to appear more intelligent than a speaker. Although both forms of using language have the same basic principles they both have exclusively different occurrences of each. (Schachter, Christenfeld, Ravina, & Bilous, 1991).

In verbal speech humans tend to use words and phrases that are normally deleted from any type of printed language. According to Schachter et al., (1991) the use of words like “um” and “uh” in verbal speech are often referred to as speech disfluencies. For instance, the words “um”
and “uh” are constantly uttered in verbal speech when the speaker takes a pause or loses their place, but when writing the person has the capability to edit and logically think of the order of words to use to create a cohesive piece of speech. Virtually everyone uses “filler words,” or disfluencies, at a rate that has been conservatively estimated at 6 per 100 words (Brennan, 2001). Researchers disagree on the type of information that is conveyed by disfluencies. Some researchers claim that they only serve as fillers, contributing to the overall message, but not having individual meaning (Corley & Stewart, 2008). Other researchers, such as Foxtree (2001) argue that they are separate words in themselves, with their own separate meanings. Whether disfluencies have individual meaning or not, research indicates that their usage conveys information to a listener which impacts the comprehension and meaning of the message. The most widely accepted view of why speech disfluencies are used in verbal communication is because words like “um” and “uh” allow for ample time for the speaker to choose a word or phrase to complete a thought or sentence (Schachter et al., 1991). Although we know that these disfluencies do tend to occur in verbal speech, the implications of words like “um” and “uh” are still widely debated.

It is crucial for the purposes of this research to acknowledge the significant advantages and disadvantages that exist in terms of verbal speech. Due to the nature of verbal speech it allows the speaker to make pauses when searching for the next logical word, which can serve as a disadvantage or advantage. This searching for proceeding words is mentioned in the Schachter, Rausher, Christenfeld & Tyson Crone (1994) in which they state that pauses in oral speech could possibly indicate that a particular speaker has an enormous mental vocabulary which they must sort through, in order to come up with the most effective word to finish their thought. Therefore, the use or “um” and “uh” could indicate a wealth of knowledge. Another advantage to verbal
speech in relation to speech disfluencies is that words like “um” and “uh” facilitate individuals to take place in turn taking when in groups (Hudson Kam, & Edwards, 2008) something that is rarely seen in printed speech situations. The use of speech disfluencies like “um” and “uh” help to indicate to another person that the speaker is still continuing to talk or that it is the next persons turn to speak.

Although there are numerous advantages to oral speech, there are significant disadvantages. Because there is often almost no preparation when speaking, unless rehearsed, there is always the potential for the speaker to sound incompetent. According to Arnold, Tanenhaus, & Hudson Kam (2007), a speaker can use pauses in speech or words like “um” and “uh” when they lack the needed knowledge to answer a question or finish a statement, thus making the speaker look ill prepared. Although appearing ignorant is not an obvious disadvantage, it does affect the creditability of the speaker and the message he or she is intending on conveying to the audience. Furthermore, this negative view of why people use “um” and “uh” is still widely debated and not entirely supported. Therefore, when comparing printed versus oral speech, a multitude of factors that make oral communications so complex is apparent and the focus of much scientific research. Somehow, we must learn when we are young how to distinguish written and oral speech in order to communicate effectively.

Hudson Kam & Edwards (2008) found that the initial acquisition and ability to use filler words such as “um” and “uh” develops naturally along with the rest of speech. As children begin to learn the fundamental rules and techniques in using language, they also pick up on adults’ disfluencies. Although disfluencies may not always follow proper grammar rules or syntax, they are helpful tools when communicating with someone verbally. There are differences in the ways in which “um” and “uh” are used as young as 3 or 4 years of age. There is also evidence that
implies that children need to learn how to use filler words to become completely fluent in their language. Lack of the ability to use disfluencies results in slightly different messages conveyed to a listener (Hudson Kam & Edwards, 2008).

The first question concerning the impact of using “um” and “uh” is whether listeners can perceive their usage in the first place. Christenfeld (1995) showed that listeners who pay close attention to speaking style often pick up on the usage of fillers such as “um” and “uh.” However, listeners that attenuate to the content of a given speech are less likely to recognize these fillers. This implies that skilled rhetoricians who keep the focus of their speech on the content rather than allowing attention to stray to style of speaking will be perceived more positively whether they use “um” and “uh” or not.

Once listeners perceive disfluencies in a speaker’s speech, those disfluencies create interruptions in speech fluency (Brennan, 2001). These interruptions affect the ease and way a listener understands and responds to a speaker. Often, listeners do not detect the disfluencies and accept them as part of a larger message, neither picking out nor categorizing filler words being spoken. When they are noticed, listeners are still able to understand the general content and structure of the sentence. That said, the effects mentioned above pertain more to the way the listener perceives the speaker, not necessarily the message being conveyed (Brennan, 2001).

Assuming a listener perceives a speaker’s use of “um” and “uh,” the next question is the way in which their use affects the listener’s perception. When placed in sentences with similar pauses throughout, there is no significant difference between usage of “ums” and “uhs” when pertaining to how the speaker is perceived. However, when no “ums” or “uhs” are used in speech, speakers are rated more positively by listeners. In an experiment done by Arnold (2003), participants listened to recordings containing “ums,” “uhs,” or no fillers at all. Participants then filled out a
survey about how they perceived the speakers. No participants rated speakers using “um” or “uh” positively and it was recorded that speakers were rated as more unprepared, irresponsible, and unrehearsed for their topic (Arnold, 2003).

Research suggests that listeners are quite capable of picking up on the use of “um” and “uh,” the message their use conveys is also important. The use of “uh” has been shown to imply a shorter pause before further information is introduced than use of “um” (Corley & Stewart, 2008). Also, although filler words convey no meaningful information on their own, they provide a collateral message as to the overall performance of the speaker to the listeners. In experiments testing the differences in messages conveyed by “um” and “uh,” the disfluency “uh,” actually improved response time of the listener, as well as aiding in comprehension of upcoming words. No benefits or detriments were found when testing “um” (Foxtree, 2001). However, there is other evidence which suggests the use of “um” provides a benefit to listeners. Foxtree (2002) also found that use of “um” actually indicates that the speaker is aware of an upcoming delay in their speech. Lack of a filler word, leaving a silent gap in speech, indicates that the speaker was unaware of an upcoming pause or delay in their speech which may indicate dishonesty, discomfort, or difficulty in speech production (Foxtree, 2002). Assuming speakers convey messages when they use disfluencies, and that those messages change the way in which listeners understand speech, listeners could conceivably pick up on these meanings consciously and actively use them to aid in comprehension. In the experiment conducted by Barr (2001), use of “um” and “uh” occurs more frequently when the speaker is referencing a new piece of information, rather than a familiar piece of information. This is another example of how listeners could be consciously or unconsciously swayed by speech content and use of disfluencies.
Since filler words are detectable, and they convey information to the listener, it is important to recognize whether the speaker is purposefully or subconsciously inserting filler words into their speech. There is evidence that both conscious and unconscious uses of filler words are employed. Speakers may automatically use filler words to delay speech, whether to gather their thoughts or searching for the correct words (Corley & Stewart, 2008). Speech and its methods have exclusive patterns, advantages and disadvantages that can all be related to testing the effects of using “um” and “uh” on the perceived intelligence of a speaker.

In this experiment we seek to explore the relationship between perceived intelligence of a speaker, and their use of disfluencies, such as “um” and “uh.” We hypothesized that participants will perceive speakers using “uh” as the least intelligent, and that the absence of disfluencies will be perceived as the most intelligent. Research suggests that including disfluencies in speech conveys an additional message about the speaker. Previous research indicates that “uh” aids in listener comprehension as opposed to “um.” However, we hypothesized that ease of comprehension is inversely related to perceived intelligence and that while use of “uh” may aid in comprehension, its use will not be perceived as intelligent. Therefore, we hypothesized that ideas about intelligence of the speaker will be affected by the use of the disfluencies “um” and “uh.”

**Method**

**Participants**

Participants consisted of Longwood University students who signed up and agreed to voluntarily participate in the research using an online database set up by the university. Participants consisted of seventy-three people, seventeen males and fifty-six females with an age range of 18-36 and a mean age of 19.6. Students received one point of extra credit in a
psychology course for their participation. There were thirty-three freshman participants, nineteen sophomores, twelve juniors, and nine seniors. There were no graduate students or other class ranked participants.

**Materials and Procedure**

Students signed up for the study under the deceptive title of “Students’ Perceptions of Peer vs. Adult Public Speaking.” Participants were randomly assigned to one of three groups, the “um”, “uh,” or control. The control group listened to a thirty-eight second audio recording containing facts about Longwood University, including the year it was founded, and demographics (see Appendix A). Participants in the “um” group followed the same procedure as the control group except that the audio recording included the speaker using the word “um” throughout the paragraph. Participants in the “uh” group also followed the same procedure except that the audio recording contained the speaker using the word “uh” throughout the paragraph. After each group listened to their assigned audio recording they completed a brief survey that contained questions pertaining to their perceptions of the speaker, such as intelligence, preparedness, ease of understanding and effectiveness of public speaking (see Appendix B). Participants’ perceptions of the speaker were measured on a Likert scale from “strongly disagree” to “strongly agree.” When each participant completed their survey, we debriefed them regarding the true nature of our study.

**Results**

A one-way Analysis of Variance was used to analyze the data. Our target question pertained to participants’ perceived intelligence of the speaker. As seen in Figure 1, perceived intelligence in the “um” and “uh” groups were not significantly different from the control or from each other, \( F(3.6, .582) = 2.21, p = .117 \).
We did, however, find significant differences in questions pertaining to preparedness to speak, effective public speaking, and ability to understand the speaker. In the question pertaining to preparedness, \( (M = 2.39, SD = 1.07) \), significant differences were found, \( F(2, 70) = 25.30, p < .001 \). We conducted a Scheffé post hoc and found that the “um” and “uh” levels were not significantly different from each other, \( p = .066 \), but both were significantly different from the control, \( p < .001 \), which can be seen in Figure 2. In the question regarding effective public speaking, \( (M = 2.50, SD = 1.05) \), we also found significant differences, \( F(2, 70) = 19.13, p < .001 \) as seen in Figure 3. We conducted a Scheffé post hoc and found that the “um” and “uh” groups were not significantly different from each other, \( p = .426 \), but were both significantly different from the control, \( p < .001 \). In the question about the ease of ability to understand the speaker, \( (M = 4.02, SD = .72) \), seen in Figure 4, also contained significant differences \( F(2, 70) = 8.72, p < .001 \). We conducted a Scheffé post hoc and found that the “uh” level was not significantly different from the “um”, \( p = .107 \), nor was the “um” group significantly different from the control, \( p = .124 \). However, the “uh” group was significantly different from the control group, \( p < .001 \).

**Discussion**

Although we did not find that use of “um” and “uh” influenced how intelligent a speaker was perceived as, we did find that perceived preparedness to speak about the topic, effectiveness at public speaking, as well as ability to understand the speaker could be influenced by a speaker’s use of “um” and “uh.”

We believe that the reason our hypothesis was not supported was because the listeners were processing the message being conveyed, rather than the individual words being spoken (Brennan, 2001). By perceiving the gist of the message, rather than attenuating to individual
usage of filler words such as “um” and “uh,” the participant gained an opinion of the speaker based on meaning, rather than content. Therefore, perceived intelligence was affected by use of “um” and “uh” but was not significantly different.

The question regarding whether the speaker was perceived as prepared to talk about their topic yielded significantly different results. The “um” and “uh” levels were both significantly different from the control, but not significantly different from each other. According to previous research by Arnold (2003), speakers who used “um” and “uh” were rated as more unprepared to talk about their topic. This finding coincides with our hypothesis because we feel that unpreparedness could be related to perceived intelligence of a speaker. Unpreparedness may suggest a lack of forethought that seems necessary to intelligently convey a message.

In the question that asked participants about perceived effectiveness at public speaking, the “um” and “uh” levels were not different from each other, but both were significantly different from the control level. Research has shown that use of “um” and “uh” indicate that word choice is difficult for the speaker (Arnold et al., 2007). This may relate to why participants rated the speaker using “um” and “uh” as an ineffective public speaker. Successful public speakers are usually viewed as having an ample vocabulary, as well as the ability to convey their meaning seamlessly. Participants may have utilized this paradigm, and rated the speaker as less effective if they used “um” and “uh” because the words did not flow without disfluencies.

Our last question participants rated how easy the speaker was to understand. The “um” level was not significantly different from the control group, or the “uh” level. However, the “uh” level was significantly different from the control group. These results differ from our hypothesis because we predicted that the “uh” level would be the easiest to understand, having an inverse relationship with perceived intelligence. One reason for these results could be that participants
noticed the disfluencies in the “uh” level, and were distracted by their presence (Brennan, 2001). We find this result interesting because much of the previous research on “um” and “uh” suggests that “uh” aids in comprehension while “um” detracts from the message being conveyed (Foxtree, 2001). If the results had followed this pattern, participants would have rated the speaker as easy to understand when using the word “uh,” and speakers using the word “um” would have been rated as harder to understand.

One change we would make for future research would be to change the frequency of disfluencies inserted into our taped recording. We feel that participants may be influenced more by a higher number of disfluencies, and that participants may not have noticed the number in our current study. More disfluencies in the recording would make their presence more apparent to participants, possibly increasing the affect they have on participants’ perceived opinions of the speaker’s intelligence. Another variable we may have added, which could be tested in the future, is the presence of the word “like” in speech, and how it affects perceived intelligence. In today’s culture, “like” has become a common filler word and we believe its use could impact the way listeners perceive an individual’s intelligence.

Overall, while the findings did not support that “um” and “uh” affect perceived intelligence of a speaker, they did show that disfluencies influence the way a listener views a speaker. Our study showed that perceived preparedness, effective public speaking, and ease of understanding were negatively influenced by the use of “um” and “uh.” We believe that these traits are indirectly related to intelligence, because they are related to the speaker’s ability to convey a message (Arnold, 2003). Whether the use of disfluencies has a positive or negative effect on a listener’s perception of a person’s speech is still unclear; however, our study suggests that their use can be detrimental.
References


Figure 1. The graph shows the average participant rating on a scale of 1 to 5 for each level in the experiment regarding perceived intelligence of the speaker. No groups were found to be significantly different from each other.
Figure 2. The graph shows the average participant rating on a scale of 1 to 5 for each level of the experiment concerning whether they perceived the speaker lacking preparedness to talk about their topic. Both the “um” group and the “uh” group were significantly different from the control group, however they were not significantly different from each other.
Figure 3. The graph shows the participants’ average rating on a scale of 1 to 5 for each level of the experiment regarding whether they perceived the speaker as being ineffective at public speaking. Both the “um” and “uh” group were significantly different from the control group, but they were not significantly different from each other.
Figure 4. The graph shows the participants’ average ratings on a scale of 1 to 5 for each level of the experiment concerning whether the speaker was perceived as easy to understand. The “uh” group was significantly different from the control group, but not from the “um” group. The “um” group was not found to be significantly different from either group.
Appendix A

Longwood University was founded in 1839 in Farmville, Virginia. It was originally called the Virginia State Normal School. The school was all female until it became co-educational in 1876. There are currently around 4,800 students at Longwood, 31% male and 69% female. About 85% of students at Longwood are enrolled in undergraduate programs. Average class size at Longwood University is 21 students with a student-teacher ratio of 18:1. Longwood University has competed at the NCAA division one level since 2007, and recently became a member of the Big South Conference.
Appendix B

**Students’ Perceptions of Peer vs. Adult Public Speaking**

**Sex:** (circle one)  male  female

**Age:** ______

**Class Rank:** (circle one)  freshman  sophomore  junior  senior  graduate  other

**Is English your first language?** (circle one)  Yes  No

Circle the answer that best completes the question, in your opinion:

1. **The speaker is intelligent:**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

2. **The speaker was knowledgeable about Longwood University:**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

3. **The speaker is a student at Longwood University:**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

4. **The speaker is a professor at Longwood University:**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

5. **The speaker was unprepared to talk about their topic:**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

6. **The information presented is accurate:**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>
7. The speaker is smart:

   Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

8. The speaker conveyed information in a clear, concise way:

   Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

9. The speaker was not effective at public speaking:

   Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree

10. The speaker was easy to understand:

    Strongly Disagree   Disagree   Neutral   Agree   Strongly Agree