

5-1-2022

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Recommended Citation

Emetonjor, Ezeriki (2022) "Laughs and Giggles Take Center Stage: The Effect of Humor on Public Speaking Anxiety," *Perpetua: The UAH Journal of Undergraduate Research*: Vol. 6: Iss. 1, Article 1. Available at: <https://louis.uah.edu/perpetua/vol6/iss1/1>

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Laughs and Giggles Take Center Stage: The Effect of Humor on Public Speaking Anxiety

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Abstract

This study sought to explain the connection between self-reported public speaking anxiety level, humor use, and the effect that humor may have on public speaking anxiety levels during student's speeches. Existing studies theorize that humor may improve a speaker's disposition during their speech but are yet to empirically measure stress response. Humor in specific contexts, such as medical fields or business, has been shown to relax the audience, but it can backfire and make the speaker lose credibility. Our method relied on 120 undergraduate students who wore wrist-based, heart rate monitors during their speeches. Instances of humor were derived from the speeches using video recordings. We compared students' self-report stress level to the speaker's actual stress level during the live speech to see the impact of humor usage. Next, we looked at the speaker's sustained stress level during the time they were telling a funny story or joke. The results indicate that there might be a relationship between humor and public speaking anxiety, but the stress response was not different based on self-reported stress level. We provided examples of 8 participants, which all show instances in which there was a drop in RR levels during humor usage. This study gives empirical evidence for teachers and public speaking coaches on when to advise humor use in speeches. While humor can be rewarding, it appears to cause a heightened stress response due to a sense of vulnerability.

Keywords: public speaking anxiety, heart rate intervals, humor, stress relief theory, identification

1. Introduction

Many people dread the activity of speaking in public because of the anxiety or negative perceptions they associate with it. According to Bodie (2010), public speaking anxiety is specifically defined as a "subtype of communication-based anxiety whereby individuals experience physiological arousal, negative self-focused cognitions, and/or behavioral concomitants in response to an expected or actual presentation" (p. 71). Some of these effects of public speaking anxiety include higher heart rate, a fear of judgement from others or even physical manifestations, such as trembling. From this, we can see that public speaking anxiety plays a big role in our lives, particularly in areas where public speaking is relevant, such as in the workplace or in school, and so on.

Another major factor that is relevant to our lives is the presence of humor. Humor

can be defined as the "quality of being pleasant, sympathetic, amusing, or funny" (Reber 1995 in Bodie 2010). Humor exists in almost every period in our life, whether in good times or bad. In fact, humor, at times, can be used in stressful situations to diffuse the stress, as it helps one get into a positive mood, which in turn influences one's cognitive processes in a more desirable manner (Cann, Calhoun, & Nance, 2000). This makes humor a very interesting topic to study, to fully understand the extent to which it plays a role in our perception and interaction with the world.

In this paper, we will examine the interaction between humor and public speaking anxiety, particularly in terms of the effect that humor has on public speaking anxiety. We are interested in this interaction, as humor is a potential tool to mitigate the stress that comes with public speaking anxiety. The study involved observing and

recording 120 students as they delivered their graded speeches: introductory, special occasion, informative, and persuasive. The students wore wrist-based Rhythm+ heart rate monitors during their speeches to measure their heart rate variability, which will be referred to as RR in the rest of this paper. The recording of their speeches was then compared to their RR to identify what was happening in context as their RR level dropped, indicating a high stress moment (high RR indicates low stress while low RR indicates more stress). From those high stress moments, we observed a number of them that correlated with humor. In this paper, we will display some of those observations, in which an instance of humor was correlated with a drop in RR levels.

We will first start with some academic literature, which provides some background as to the relationship between humor and public speaking. We will then talk briefly about our methods and results from this study, as well as provide some ways in which we can move forward on this topic.

2. Literature Review

This literature review will begin by discussing the common definitions and theories for humor in public speaking. Next, it will address the social role of humor before surfacing existing research on humor and its effects in high stress situations.

Humor is highly dependent on the situation, speaker's position, and their relationship to the audience (McRoberts &

Larson-Casselton, 2006). Whether it is a formal joke, surprising anecdote, word play, wry observation, or self-deprecating remark, humor changes depending on cultural context and over time. As Meyer (2000) explains, "given a set of audiences or contexts, what would be perceived as quite humorous in one instance may seem irrelevant or only mildly interesting in another" (p. 316). Because humor also includes both nonverbal and verbal communication (Kanchanapoomi & Trakulkasemsuk, 2020), the speaker's identity matters. The speaker must use context, cultural knowledge, paralinguistic attributes (such as tone, pace of speaking, and volume), and nonverbal communication (such as facial expression, gestures, and posture), to create a humorous event. Some people are natural joke tellers, finding humorous content in any situation while others need very specific situations (Jalalkamali et al., 2018).

The audience must find something funny to complete the circle. According to one definition of humor, there must be a sense of surprise for audiences to "get" a joke, so the underlying content must be familiar to the audience yet not too familiar (Meyer, 2000).

Several studies have addressed the impact of humor in various situations. According to Romero and Cruthirds (2006), humor is a useful tool for managers and supervisors to reduce stress and tension in the workplace and improve their performance. Lee and Kleiner (2005) also found benefits for front line employees who

experienced less stress and anxiety when humor was part of the workplace. McRoberts and Larson-Casselton (2006) analyzed health care settings and found that humor allowed health care staff to manage negative emotions, like anger, fear, or embarrassment.

Existing empirical studies have not specifically looked at the effect of humor on the speaker. Benacka (2017) hypothesized that humor helps establish rapport with the audience: “Humor is a primary way to create a sort of backstage informality” (p. 39). It can also be used to “smooth over disruptions that may occur during a speech” (p. 39). Bronson and Alford (2004) point out that American adults fear public speaking more than any other event, in some cases more than death itself. They recommend that students reframe their fear of the public speaking situation as a funny situation where the audience may laugh along with them rather than at the speaker. Finally, there are some ideas about the role of humor in audience retention of information where humor improves interest in the content (Gruner, 1970).

RQ1) When a speaker uses humor, does the audience reaction change their stress response?

H1) High anxiety speakers will have a nervous response when attempting to use humor; Low anxiety speakers will be confident in their jokes and not have a nervous response.

3. Methods

Public speaking has long been a key skill taught to students around the world, many who experience public speaking anxiety, a type of communication apprehension (Bodie, 2010). To better understand public speaking anxiety empirically, 120 students were asked to wear a wrist-based Rhythm+ heart rate monitor as they delivered their graded speeches: introductory, special occasion, informative, and persuasive. The video recording of their speeches was then matched to their heart rate variability (high RR indicates less stress, low RR indicates more stress (Friedman & Thayer, 1998)) to identify what the speaker was experiencing in context. 2,547 high stress moments were captured and analyzed. Of those, 129 dealt directly with humor. This subset was retained to address our research question. The participant pool contained 80 men and 57 women. They were predominantly freshman and sophomores. The participant pool was also 72% white which matches UAH’s existing racial diversity.

4. Results

To understand the impact of humor on the speaker, we looked at all instances of joke usage and the RR values for each speaker to see if there is a difference between low, medium, and high PRCA-24 values. A spearman correlation showed there was not a significant relationship between stress from telling a joke and the joke tellers

self-reported anxiety level ($\rho(127) = -.127, p = .15$).

Next, several specific speakers serve as case studies for the stress reaction when using humor in their speech.

Illustrative Examples

Participant A: Participant had an instance of humor in the final RR drop at a value of 995. Participant A told a joke involving a funny story of a family member (grandpa who is always kayaking on Gunter'sville and would most likely be seen if anyone was passing by). Audience responded positively with most of the class laughing or giggling in response to the joke.

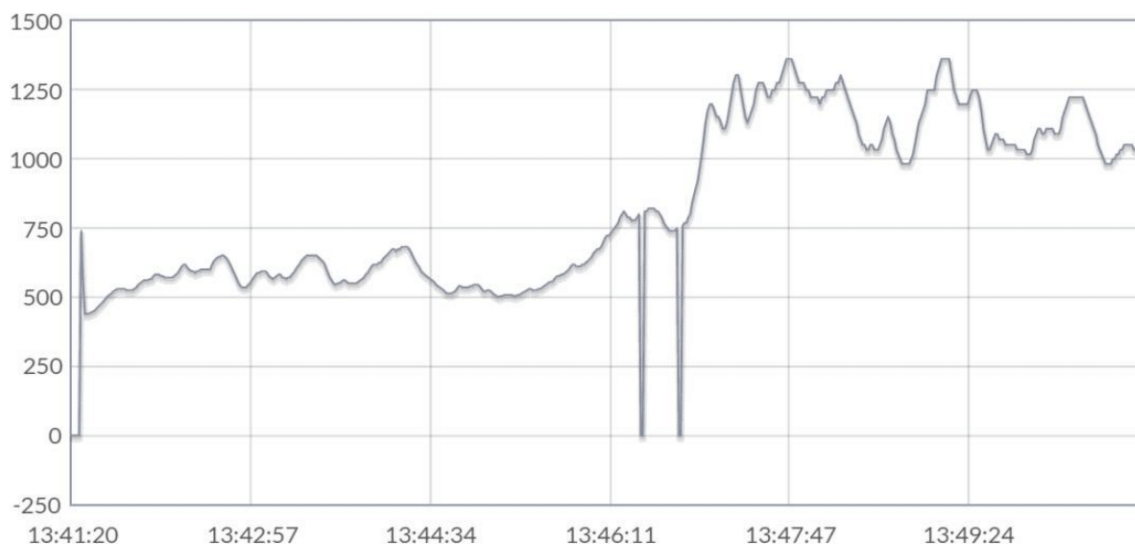


Image 1: Participant A RR chart.

Participant B: Participant B had very stable RR data with only three RR drops. The instance of humor occurred at the second RR drop with an RR value of 580. The participant was telling a humorous story of

the time when he and girlfriend were being robbed and how they escaped. There was minimal reaction from the audience with a few giggles here and there. Participant did laugh at his own funny story though.

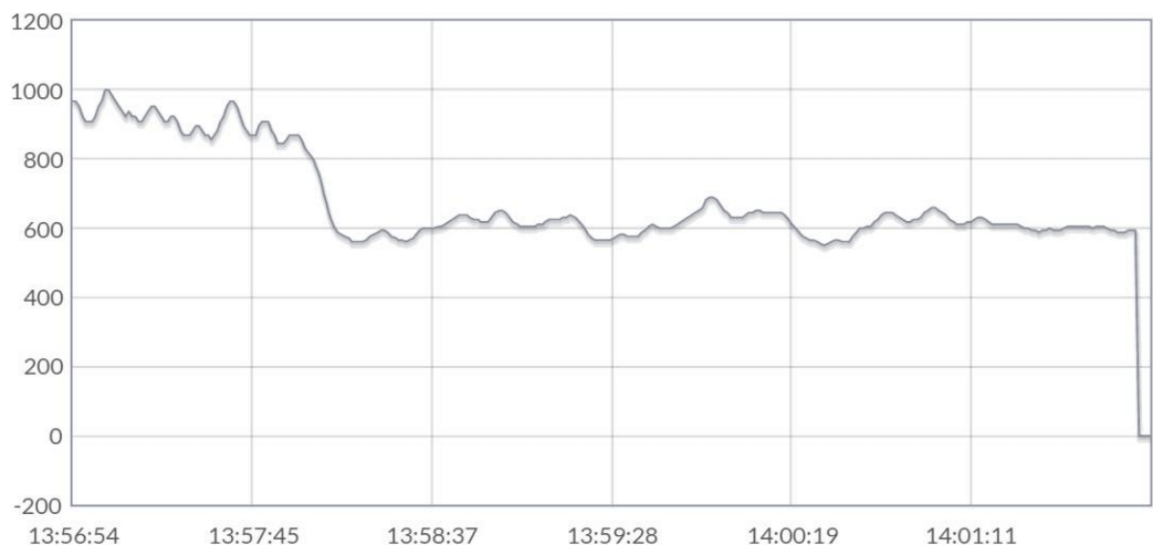


Image 2: Participant B RR chart.

Participant C: There were about two instances of humor in this speech. First instance occurred at the second RR drop at an RR value of 1150. The participant was telling a funny story, which was very specific to the hobby or activity of driving in which her boyfriend was a scary driver. The participant laughed slightly at the story, but

there was minimal to no response from the audience. Second instance occurred at the last RR drop at an RR value of 1160. The participant was concluding her speech and referenced the funny story of her boyfriend's scary driving again, in which she giggled slightly. Audience did not respond.

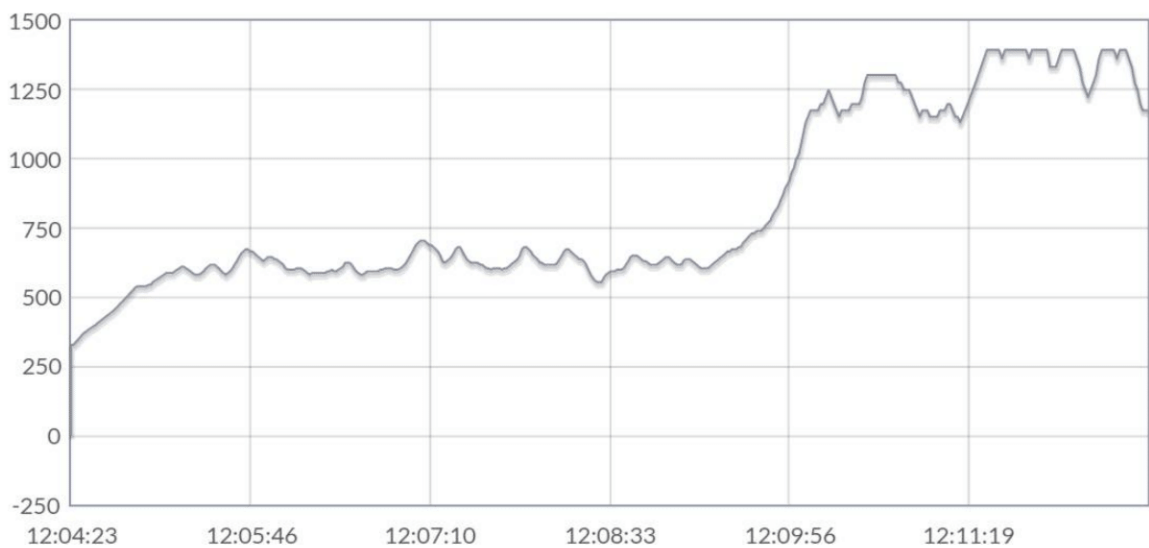


Image 3: Participant C RR chart.

Participant D: There were about two instances of humor. The first instance occurred at an RR value of 1050. The participant was in the middle of the speech in which the participant highlighted a fun aspect of his life, which involved missing school as a result of his avid participation in sports, such as basketball and soccer; he also

showcased to the class an obvious golf ball in a humorous way that elicited some laughs from the audience. The second instance occurred at an RR value of 900. It involved the participant explaining his medical condition, in which he got extremely dizzy between sitting and standing up, using a humorous statement.

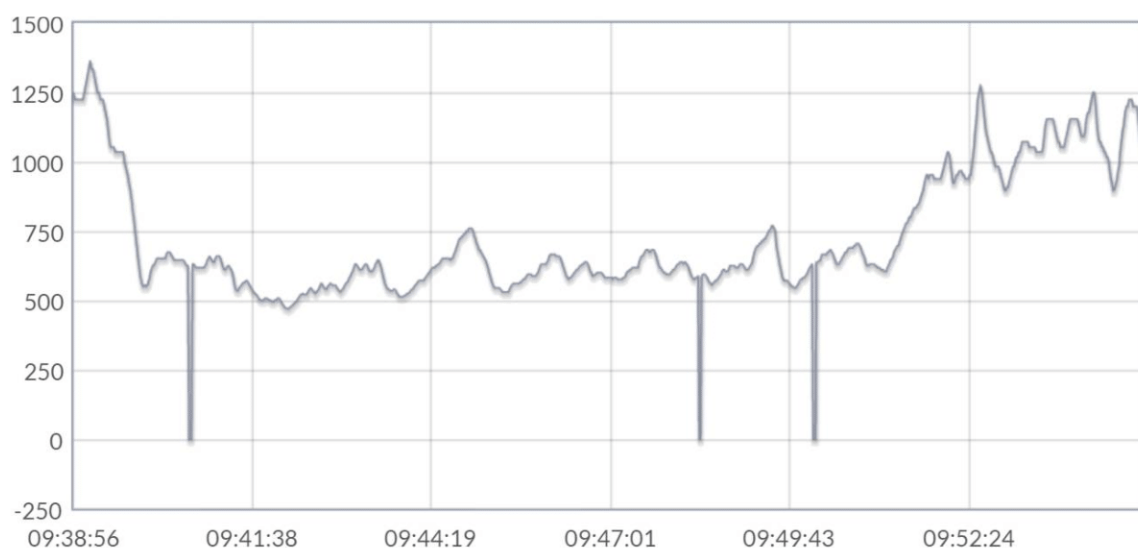


Image 4: Participant D RR Chart

Participant E: There are two instances of humor. The first instance occurred at an RR value of 550 and involved the participant narrating her experience in high school, in which students were rewarded with stickers for their academic performance; the participant made a funny comment in which instead of being the first to receive a sticker, she was the second, which she still seemed

bothered by but brushed off. The audience laughed in response. The second instance occurred at an RR value of 540 and involved the participant narrating a past ordeal, in which her class had lost a classmate and how her teacher had helped them all through the grieving process; she narrated the story with some humor before she got emotional while narrating.

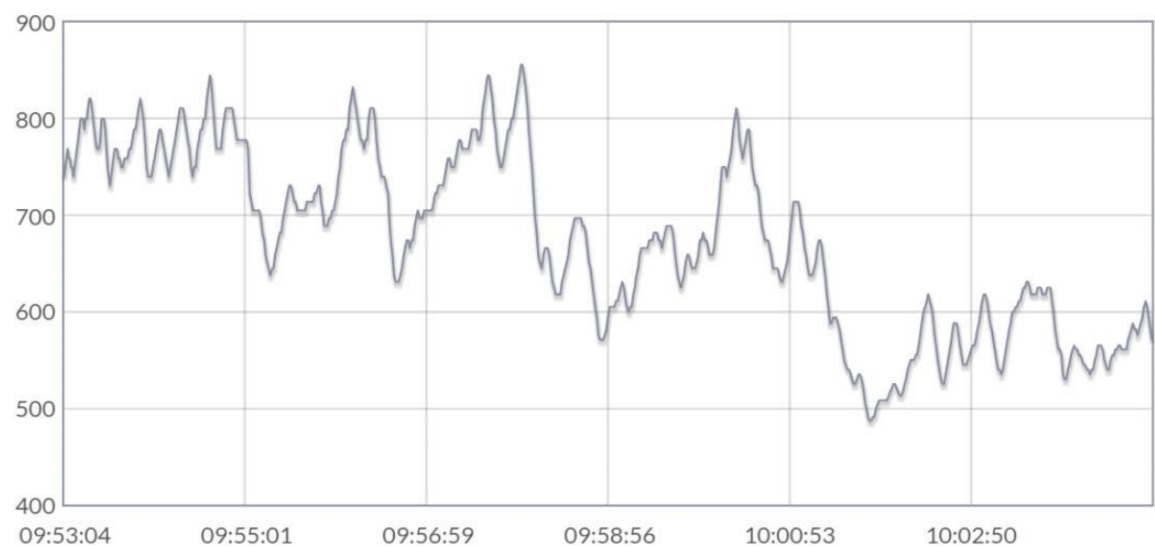


Image 5: Participant E RR Chart

Participant F: Had about three instances of humor. The first instance occurred at the first RR drop value of 1000 in which the participant started off their speech with a humorous introduction to their topic of vaccination, assuming that everyone in class should have a vaccine to be able to attend UAH. The second instance occurred at an RR value of 1120; it involved the participant

using sarcasm or wry humor to explain an instance in which the anti-vaccination stance resulted in adverse effects, such as death. The third instance occurred at an RR value of 990; it involved the participant using a humorous statement: “My right to swing my arm ends where your face starts” to drive home the point that vaccination should be mandatory.



Image 6: Participant F RR Chart

Participant G: This had one instance of humor, which occurred at an RR value of 450. It involved the participant conveying to the audience that the scientific community

didn't know a whole lot about how the brain works; the participant giggled slightly at his own comment, which elicited some laughs from the audience.

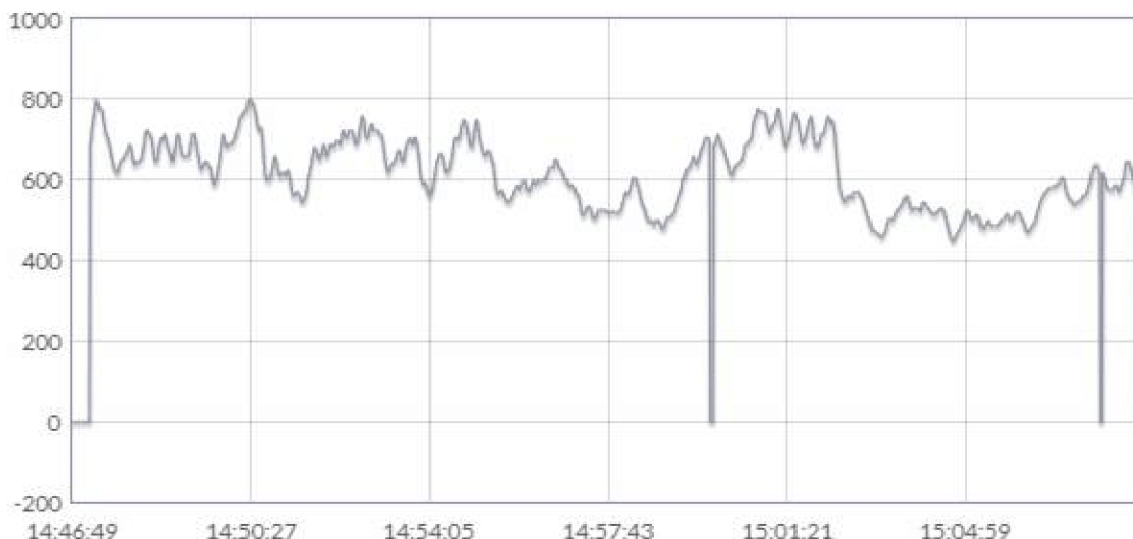


Image 7: Participant G RR Chart

Participant H: This participant's RR values were steady and the two times he had RR drops were associated with humor. The first instance occurred at the RR value of 500; it involved the participant starting off their introductory speech with some geography background in which the participant pronounced the funny name of his birth town. The second instance also occurred at

an RR value of 500; this involved the participant explaining his aversion to attending the University of Alabama in Tuscaloosa, as he believed that everything there revolved around American football. However, he then proceeded to apologize sarcastically and state "Roll tide," which elicited laughs from the audience.

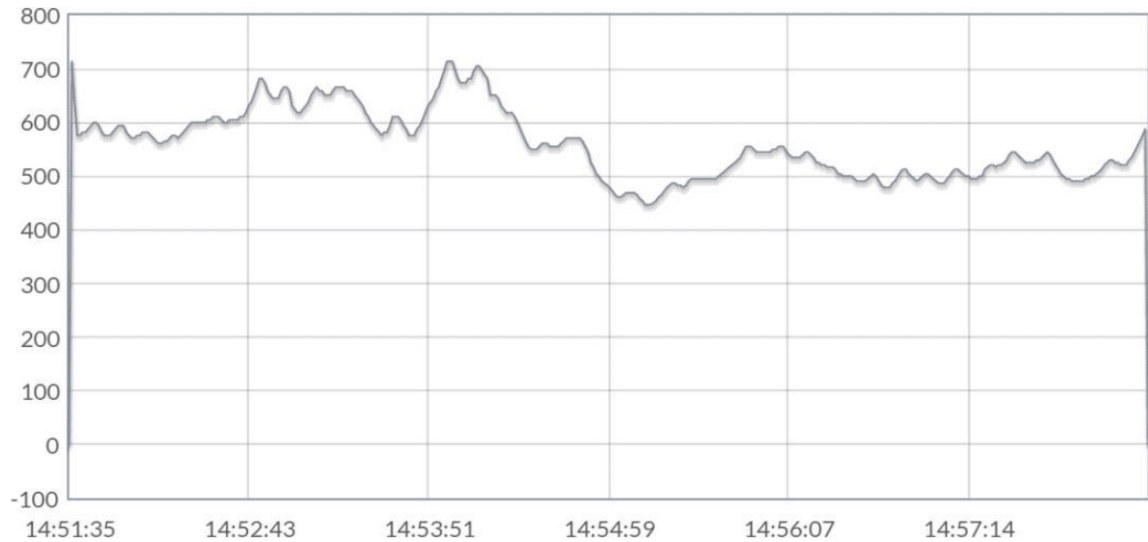


Image 8: Participant H RR Chart

5. Discussion

In relation to the Literature surrounding the use of humor in public speaking, this study provides empirical evidence that contradicts many of the existing recommendations around humor use in speeches. While humor may relax the audience (McRoberts & Larson-Casselton, 2006) and help establish rapport (Benacka, 2017), we found that laughter did not have the intended effect from threat softening (Kanchanapoomi, 2020), at least from the speaker’s perspective where high stress levels were felt. American adults fear public speaking (Bronson & Alford, 2004), but the use of humor is not an effective antidote. Bronson and Alford’s (2004) recommendation that students think of their performance as a ‘funny situation’ where the audience laughs along is not supported by the heart rate variability data. That said, there are other benefits to humor usage, such

as audience retention of information (Gruner, 1970) that could outweigh the consequences of humor use on the speaker.

This study gives empirical evidence for teachers and public speaking coaches who advise their students or clients to use humor in speeches. While humor can be rewarding, it appears to universally cause a heightened stress response in all speakers due to a sense of vulnerability. In some cases where the audience responded well, the speaker’s stress level recovered. However, in other instances where the audience had minimal reaction or did not react at all, the speaker maintained a high level of stress. As a result, it might be a good tactic for public speaking teachers and coaches to provide pointers to their students on how to use humor in an effective and relevant way, such that it elicits a reaction from the audience. In addition, public

speaking teachers and coaches can provide training to their students on how to recover from the stress induced when humor is not received well by the audience during a speech; this way, even if the students maintain a high level of stress when using humor, they are better prepared for a negative outcome and might be able to recover faster and still deliver a good speech. Some practical tips on how students might alleviate stress associated with humor use in public speaking include, quickly moving on to the next topic, making eye contact with friends, not trying to explain the joke any further, or pausing to briefly look at notes or presentation slides.

Limitations

The current study did suffer from several limitations due to the research design. Due to the heart rate equipment, the sample size is smaller than a survey study could reach.

Additionally, the study relied upon college students who may react differently than the general population due to their younger age range and inexperience with public speaking. Most college speeches are also graded and influence students overall academic performance; as a result, this may put additional pressure on students and contribute to higher stress levels or influence the effect of humor on stress. Furthermore, due to the demographics of the available student body, the sample also lacked racial diversity. Lastly, the study was conducted in a college classroom which mimics many

public speaking forums but lacks a stage or riser.

Future Research

For future research, we would recommend gathering more data by increasing the sample size of the participants, in addition, it would also be good to diversify the sample by including other populations apart from college students and a wider variety of racial groups to observe the interaction of humor and public speaking anxiety in order to provide more general advice on how people can better utilize humor during public speaking. Furthermore, it would be interesting to see the effect of humor on public speaking anxiety in other settings apart from the college classroom setting, such as high school and middle school classroom settings, at public events such as town halls, or within classroom settings in which speeches are not graded and have less of an impact on students' stress levels.

Some additional questions we have, and hope can be explored more, is the effect of humor on public speaking anxiety when the incident of humor is planned and is a rehearsed part of a speech as compared to when it is unplanned and coincidental. Another interesting question, which can be studied in future, is the effect on stress when a speaker reacts to their own joke; for example, could laughing at their joke help speakers alleviate stress or does it increase their stress levels.

6. Conclusion

The current study sought to empirically understand how a public speaker's use of humor changes their stress response using an innovative heart rate measurement protocol. While we hypothesized that there would be a difference in stress reaction depending on if the speaker experiences high or low anxiety, no difference in stress level was found. Instead, all speakers experienced a heightened stress response when using humor in their speeches. This has implications for the ways we teach the use of humor in public speaking classes. When

taking center stage, laughs and giggles may not be the rewarding antidote to anxiety that many hope.

7. Acknowledgements

Acknowledgements goes to UAH Research and Creative Experience for Undergraduates for the opportunity to engage in research, as well as, my family and friends, Dr David Cook, Dr Wafa Orman, and Dr Brinda Mahalingam for their direction and support. Finally, I would like to thank Dr. Candice Lanius, whom I collaborated with on this paper, for all her great advice, support, and funny jokes.

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