

University of Lynchburg

## Digital Showcase @ University of Lynchburg

---

Undergraduate Theses and Capstone Projects

Student Publications

---

Spring 5-15-2022

### Impacts of Biased Scientific COVID-19 News Reporting on Mortality Salience

Jena Wilkinson

University of Lynchburg, wilkinson\_je@lynchburg.edu

Follow this and additional works at: <https://digitalshowcase.lynchburg.edu/utcp>



Part of the [Family, Life Course, and Society Commons](#)

---

#### Recommended Citation

Wilkinson, Jena, "Impacts of Biased Scientific COVID-19 News Reporting on Mortality Salience" (2022). *Undergraduate Theses and Capstone Projects*. 257.  
<https://digitalshowcase.lynchburg.edu/utcp/257>

This Thesis is brought to you for free and open access by the Student Publications at Digital Showcase @ University of Lynchburg. It has been accepted for inclusion in Undergraduate Theses and Capstone Projects by an authorized administrator of Digital Showcase @ University of Lynchburg. For more information, please contact [digitalshowcase@lynchburg.edu](mailto:digitalshowcase@lynchburg.edu).

Impacts of Biased Scientific COVID-19 News Reporting on Mortality Salience

Jena Wilkinson

**Senior Honors Project**

**Submitted in partial fulfillment of the graduation requirements of the Westover Honors**

**Program**

**Westover Honors Program**

May 2022

---

Ei Hlaing, PhD

---

Sharon Foreman, PhD

---

Laura Kicklighter, PhD

### **Abstract**

COVID-19 has made people aware of their own death, referred to as mortality salience. Mortality salience affects behavior. Public health uses reporting to inform the population, and many news reports reference the pandemic's death toll. The current study investigated the difference in mortality salience between news supporting CDC-recommended guidelines and news not in compliance with CDC guidelines. It was hypothesized that CDC compliant news would induce higher rates of death anxiety. Additionally, non-CDC compliant news would influence lower perceived control of COVID-19. This was a mixed factorial design of 133 students at a small liberal arts university. Survey responses were obtained using Google Forms. Participants were given a death anxiety scale to complete before and after listening to a randomly assigned clip of a CDC compliant or non-CDC compliant report, additionally participants completed a short COVID-19 perceived control scale. The results show no significant difference for mortality salience ratings as well as no significant differences for perceived control of COVID-19 between the two types of news. These results may indicate that a short exposure to news has no meaningful effect on mood as a result of desensitization to COVID-19 after two years of the pandemic. This study of a homogeneous population experiencing similar rates of anxiety provides support for further research in younger populations, and longer exposures to news.

**Impacts of Biased Scientific COVID-19 News Reporting on Mortality Saliency**

COVID-19 is the most recent pandemic since the 1918 Influenza pandemic (Center for Disease Control and Prevention [CDC], 2019). When viewed as a disaster, COVID-19 has effects similar to those witnessed post-9/11 (Shah, 2020). The death rates and isolation resulting from the pandemic has shown significant increase in mental health concerns and disorders. Death rates have been at the forefront of news since the beginning of the pandemic, and therefore, at the forefront of most people's minds (Basch, et al., 2020). As a result of death, illness, and isolation, there has been a global increase in anxiety. For those directly impacted by COVID-19, rates of anxiety are elevated even higher than that of simply existing during a pandemic (Burhamah et al., 2021). An Associated Press survey from the University of Chicago conducted in late February 2021, found that overall 19% of participants reported knowing someone who had died from COVID-19, a rate that increased among African American and Hispanic respondents ("Nearly one-fifth of Americans know someone who has died of COVID-19," 2021). This is the first time the staggering majority of Americans have had to face death at rates so high that the country's hospitals are overburdened by patients, and morgues strained by corpses.

The experience of death within a close relationship can be traumatic, and the experience of death commonplace within society has not occurred with the United States since the AIDS crisis (Keyes et al., 2014). Just as the AIDS epidemic forever changed the affected communities, COVID-19 is impacting all of American society (Frierson & Lippman, 2021). The experience of witnessing sickness and death on such high levels is unprecedented, particularly for the country's younger populations. Even those who vividly remember where they were the moment the twin towers fell are new to the experience of hearing reports of the numbers of dead as a staple on the

news for at least a year and a half. Understanding these short and long term effects of the COVID-19 pandemic will improve mental health treatments, as well as response to this, and other, global public health crises.

Zhong et al. (2021) utilized COVID-19 as an ever present mortality cue allowing for research into both reflection and anxiety. COVID-19 acts as a constant reminder of death causing both reflection on one's impending mortality, as well as anxiety surrounding the thought of one's own death. Results showed that in both August and November of 2020, the majority of participants reported experiencing higher death reflection than death anxiety, while the second largest majority of participants experienced both high rates of death anxiety as well as death reflection. The large variability between individual experiences with death related emotions shows evidence of how individualized the pandemic experience has been.

### **Mortality Salience in Reference to COVID-19**

Mortality salience refers to the awareness of one's own mortality. This effect is usually heightened after experiencing a tragedy that threatens one's own life, or the life of someone close to them. Mortality salience is frequently studied in conjunction with the Terror Management Theory. COVID-19 has introduced the opportunity to study this phenomenon on a new scale. Terror Management Theory posits that awareness of death increases self-preservation based on distinctions between immediate and delayed death awareness (Greenberg et al., 1986). Goldenburg and Arndt (2008) detail how the extended Terror Management Health Model applies particularly to health behaviors, and can analyze how constant death reminders for an extended period of time affect people. Terror Management Health Model builds off the Terror Management Theory's emphasis on the differences between delayed and immediate reminders of death. Behaviors vary when people are directly aware of death from the requisite reminder

compared to when time has lapsed on the death reminder. Terror Management Health Model notes that behaviors resulting from a conscious awareness of death are more closely related to health, such as eating healthy, while behaviors motivated from delayed death reminders lead to greater connections with culture, such as a commitment to religion. As the frequency of death related news over the past year and a half has increased, death awareness is consistently primed and situated at the forefront of consciousness for longer periods of time than prior to COVID-19 (Pyszczynski, et al, 2021). This has led much of the general population to function in a constant state of proximal, or immediate, priming. The effects of constancy of death reminders are still becoming evident, and research conducted now can only explore the relatively short-term effects of the global tragedy.

### **The Use of News during COVID-19**

COVID-19 reporting, as with most news, is often a vehicle through which people display their political beliefs. While COVID-19 has been highly politicized, there are other lenses through which to analyze news released regarding the pandemic. Miscommunication and sensationalization are rife among mass media (“The COVID-19 Infodemic,” 2020). The United States has relied heavily on the CDC for dissemination of statistics and guidelines during the pandemic, and this study will utilize CDC based information as the standard for scientifically reputable news (CDC compliant COVID-19 news). News media that expounds on information in opposition to CDC reporting fall into a secondary, less reputable, category of reporting (CDC non-compliant COVID-19 news). It is common to refer to these miscommunications as misinformation. Evidence has shown single exposure to misinformation might nudge behaviors, for example, a fake article suggesting greater consumption of coffee provides protection from COVID showed a small increase in participants intentions to consume coffee (Greene & Murphy,

2021). These findings prompt further research into the ways information and news can be utilized in reference to COVID behaviors.

Pandemic news impacts readers' attitudes with positive news causing positive emotions and vice versa for negative news and negative emotions. Exposure to one specific attitude of news over extended periods of time, such as over the course of the pandemic, can have long term impacts on attitudes (Giri & Maurya, 2021). In the age of the internet, news is spread through social media. Social media enables people to choose where their information comes from, and the creation of a network of like-minded people means many folks receive news through a single lens, as opposed to varied perspectives more traditional news media might provide.

Extreme cases of misinformation may lead its audience towards conspiracy theories. These theories are not accepted by the majority, and are not supported by evidence. Additionally, there are discrepancies between the theory and reality. COVID-19 has bloomed many conspiracy theories in opposition of CDC and World Health Organization recommendations. When many of these theories lead to vaccine hesitancy and lower intentions for health behaviors, these ideologies, and the news that encourages it, are harmful. Freeman et al. (2020) reported a direct connection between conspiracy beliefs and hesitancy of following government recommended guidelines. Notably, 25% of their participants showed some degree of endorsement in conspiracy theories. Additionally troubling was Freeman and colleagues (2020) findings that many of their participants shared beliefs that COVID-19 was the direct fault of Chinese or Jewish populations. These beliefs create obvious dissent among society. Beyond the obvious issues associated with racist and antisemitic views, news that encourages separationist thinking moves it's audience farther away from pro-social behavior (Courtney et al., 2021). Research into the dangers of misinformation is vital, and encourages research into the benefits of reliable news.

**Relationship between COVID-19 News and Mortality Salience**

Research has explored the impacts of death as a part of news related mental experiences, while leaving gaps in the impact of news on death related mental experiences. Pandemic news intended to prime death-thought accessibility, or the salience of mortality, is shown to increase willingness to share news, as opposed to COVID-19 news that does not center on death (Lim et al., 2021). Expelling information to the widest audience increases public knowledge, as well as encouragement to engage in specific behaviors. The current study works under the assumption that mortality salience can be used as a tool to accomplish this dissemination of information.

Research by Martin and Kamins (2019) on social loss messages impacting mortality salience is directly related to the discussion of COVID-19 and mortality salience. Analyzing what element of messaging is impacting mortality salience helps narrow down what should be manipulated to achieve the desired change in mindset or behavior. Martin and Kamins (2019), built on prior evidence of the sheer value most individuals place on interpersonal relationships. They investigated messaging that activates mortality salience while emphasizing social-loss, the impact that one's death would have on those around them, or physical mortality, with implications focused strictly on the physical body. Messaging focused on creating a fear around physical mortality, especially regarding those already engaged in the behavior, is generally ineffective. For example, showing smokers diseased lungs, did very little in the way of changing behavior intentions. In contrast, messages that focused on the negative impacts on loved ones left behind in the wake of death caused by risky behavior, were found to be much more effective at stemming dangerous health behavior intentions. Attacking an individual's choices of risky behavior often triggers defensive reactions. This is an expansion on the Terror Management



Health Model, and furthers our knowledge of how public health can make use of manipulating mortality salience.

### ***Terror Management Theory***

Terror Management Theory (Greenberg, et al., 1986) is foundational for most other research regarding mortality salience and death anxiety. This theory was initially proposed as a justification for the clinically recognized need of self-esteem. Greenberg, et. al. (1986) proposed two stages of self protection against death awareness. These stages are based on time between the moment of awareness and action taken. Immediate actions following reminders of death are behaviors with clear connections to health and well being. These defenses are referred to as “proximal defenses”. One example of proximal defenses is purchasing and using sunscreen following a notice that a friend had been diagnosed with skin cancer. Once time has lapsed, these coping mechanisms transition to “distal defenses”. These defenses have less clear connection to death prevention, and greater focus on cultural connections. For example, involvement in one’s church may provide them with self-fulfillment and meaning. These distal defenses are most commonly employed as they relate to unconscious awareness of mortality. The cultural and spiritual connection proposed in the Terror Management Theory, is described as bolstering one’s self-esteem (Thompson, et al., 2012). This is the focus of the theory, and the connection to the prior research that inspired this 1986 publication.

### **Mortality Salience and Health Behaviors**

A preoccupation with one’s own mortality can impact one’s self-preservation behaviors. This is a primary concern of Terror Management Theory (Greenberg et al., 1986). Priming of death concerns has a direct impact on people’s health related behaviors, a function that works in conjunction with one’s culture; populations in collectivist cultures have shown higher rates of

responsible health behavior than populations living in individualistic cultures, such as the United States (Courtney et al., 2021). Evidence that manipulation of death consciousness can help guide behavior inspires further research into how mortality salience relates to COVID-19. This is one of the main motivations creating a foundation for both Terror Management Theory, and its expansion, Terror Management Health Model.

Bevan and colleagues (2013) studied Terror Management Theory to examine how death anxiety impacts health behaviors and whether behavior intentions are improved or not. Results showed that health behavior intentions were highest directly following death reminders. Additionally, younger participants reported higher intentions to engage in health behaviors than older participants. In the past year and a half, death reminders have been more present than ever before. As a direct consequence to these reminders, health behavior intentions may also be present at higher rates, yet it is clear that this is not accurate for a large portion of the American population. Terror Management Theory has thus been expanded into the Terror Management Health Model, so as to apply to a public health mindset. Jimenez et al., (2021) endeavored to explain why, despite the dangers of covid, so many people are reluctant to engage in health behaviors. The participants were assessed on their COVID-19 knowledge, worry and intentions, and answered questions from the contingencies of self-worth scale. Associating COVID-19 with death resulted in lower intentions to engage in health behaviors. These findings, in association with other research, suggests that too much death anxiety creates feelings of helplessness - this is inverse to the impacts of mortality salience that encourage health behaviors. Furthermore, fatalistic thinking decreases intentions for health behaviors. This gap between death awareness that encourages health behaviors, and death awareness that creates a feeling of helplessness suggests a proposal of an inverted U-shape model for the associations of death awareness and

health behaviors. This shape has been proposed for other prosocial behaviors. As suggested by Ben-Ami Bartal et al., (2016) who analyzed stress levels in rats' motivations for prosocial behavior. Their findings showed that a moderate amount of stress was optimal for rat motivation to help their neighbor release from a cage. Further research into mortality salience and health behaviors, as supported by background information, may suggest a similar shape of effectiveness in which moderate experiences of death anxiety produce the high intentions for health behaviors.

This suggested inverted U-shape model utilized here to explain death anxiety and health behavior intention reflects the shape and purpose of the Yerkes-Dodson Law. The Yerkes-Dodson Law, originally proposed in 1908, explains how an intermediate amount of stress correlates with the greatest level of task execution. This law can be pared down and applied to the relationship of death anxiety, acting as the stressor or arousal, and health behaviors, the task to be executed. In an article from Crum, Salovey, Achor, and King (2013) the role of mindset is analyzed in relation to stress. Here, the researchers reference the Yerkes-Dodson Law but address how often this theory is one-sided, leaving out the role that coping and mindset play in handling stress and executing behavior. Applying mortality salience to a model reflective of the original Yerkes-Dodson Law helps fill in the gaps referenced in the 2013 article by addressing an attitude or mindset that additionally influences the behavior.

Arndt and Goldenberg (2017) further delve into the Terror Management Health Model with a synthesis of the research up to that point. They emphasize the differences between immediate, or proximal and more subconscious, distal, reminders of death. Notably, people react much more intentionally to immediate reminders of death, in attempts to protect their physical mortality. Distal reminders of death are interpreted most often as attacks to one's symbolic self and culture as opposed to their physical health, and their defensive behaviors reflect this,

clinging more strongly to cultural beliefs. Most research utilizing Terror Management Health model, then studies the difference between the timed reminders, or focuses purely on one condition. The argument here is that COVID-19, and its constant position in the news, creates an ever present immediate reminder of death. Applicably, research under this condition shows greater impacts for health related behaviors.

Liu et al. (2021) investigated the relationship between mortality salience and quantified self-behavior. Building on research indicating mortality salience decreases perceived control, Liu studied coping with decreased perceived control through increased defense measures using quantified self-behavior such as the personal usage of fitness and diet apps. Loss of perceived control is a direct consequence of mortality salience, and leads specifically to an increase in quantified self behavior. This culmination of evidence suggests there is a split between mortality salience that encourages self-preservation and health adherence behaviors, versus a feeling of hopelessness that results in self-motivated, not-scientifically responsible behavior. There is room in the existing literature to explore the specifics of American culture that manipulate the experience of mortality salience.

### **The current study**

Scientifically reputable news reporting disseminates the most accurate information regarding the state of the pandemic. It is important to understand the potential positive and negative effects of fact-based, as well as other forms of reporting. Findings can guide understanding of how pandemic news has impacted people as well as how pandemic news can be utilized to create a more positive outcome.

The current study addresses how scientific news reporting influences mortality salience. Mortality salience and COVID-19 perceived control will be analyzed in relation to two

contrasting conditions, CDC compliant COVID-19 news, and CDC non-compliant COVID-19 news. Mortality saliency will be measured across both conditions, as well as within each conditional group (repeated measures), while perceived control will be measured strictly between groups. The first hypothesis is that the CDC compliant reporting condition will result in higher mortality saliency than the non-scientifically supported condition. Secondly, we hypothesize that the CDC compliant reporting condition will result in higher rates of perceived control than the non-scientifically supported condition. Lastly, we hypothesize that both conditions will show higher mortality saliency rates after the introduction of the news recording as compared to before the introduction of the manipulated variable.

## **Methods**

### **Participants**

The study included approximately 134 students enrolled at a small, private, liberal arts college in the United States. Students were recruited through email. No compensation was provided. Participants under the age of 18 were excluded. Additionally, due to the online nature of the survey, participation required internet and device access. Participants were randomly assigned either to the CDC compliant reporting audio condition, or to the CDC non-compliant reporting audio condition. After accounting for the post-manipulation attention check questions, data were derived from 133 participants' responses (one individual was excluded). Participants' ages ranged from 18 to 47 ( $M = 19.41$ ,  $SD = 2.749$ ). Demographic results showed that 80 (60.2%) of participants were female, 44 (33.1%) of participants were male, and 8 (6%) of participants were non-binary. Additionally, 73% of participants were White, 11.3% of participants were Black, 0.8% of participants were Asian, and another 0.8 % of participants were

Native Hawaiian or Pacific Islander. Participants also reported 5.3% being Hispanic, and 8.3% were multiracial.

## **Measures**

### ***Mortality Salience Measure***

Mortality Salience was measured using the Templer Death Anxiety (1970) scale (See Appendix B). This scale consists of 15 questions, all answered true or false. Nine of the responses are keyed “true,” while the other six are keyed “false.” A Kuder Richardson coefficient of .73 for internal consistency was reported by Templer in his original research. This measure was developed to fill the gaps of previously developed death anxiety scales. The Templer Death Anxiety scale was written to provide a short, comprehensive measure of death anxiety. To score, the 6 “false” keyed scores are first reversed. Following this, all “true” answers count as one point. A participant's score is the total number of questions they respond “true” to. The resulting range of scores is 0 to 15. While other, more exhaustive scales have been developed to measure death anxiety, such as Death Anxiety Scale-Extended (Templer, et al. 2006), the Templer Death Anxiety Scale was chosen for the current study to support the attention of participants. The nature of the online survey, and the population of participants, provided a need for concise measurement.

### ***COVID-19 Perceived Control Measure***

To measure COVID-19 perceived control, the study utilized three statements developed by Liu and colleagues (2021). These three statements were rated using a 7 point Likert scale (1 = Not at all, 7 = Very much). The questions were “During the COVID-19 Pandemic, I feel helpless,” “During the COVID-19 Pandemic, I feel powerless,” and “During the COVID-19 Pandemic, I feel like I don't have a sense of control,” (see Appendix C) The scale was reliable ( $\alpha$

= 0.82). The perceived control measure is scored as the total of points rated on all three questions. This highest possible score resulting would be 21. Lower scores correlate with greater feelings of perceived control. Participants rated their experience of these statements based on how they felt in the moment after viewing the news clip.

### **Procedure**

This is a mixed method experimental study conducted during October 2021. Participants were randomly assigned to one of two conditions: COVID-19 CDC complaint reporting or COVID-19 CDC non-compliant reporting. The manipulation of two different COVID-19 news reports represented the two conditions. Scientific reporting was presented as news supporting findings and guidelines distributed by the CDC. CDC non-compliant reporting refers to news that opposes CDC guidelines and suggestions. COVID-19 perceived control was measured alongside mortality saliency to provide data related to health behavior intentions. The study was conducted via online survey, and participation lasted 20 minutes.

The study was conducted through Google forms, in order to follow COVID-19 guidelines. The survey was split into six sections. Participants were informed the study concerned both COVID-19 and death. After consenting to the study, participants filled out a short demographic questionnaire, providing age, race, and gender (see Appendix A). Additionally, participants provided data about where they most frequently read COVID-19 news. Participants had the option to choose more than one source of information, and choices included both traditional news media (CNN, FOX, etc.), as well as social media (Facebook, Twitter, etc.). These responses were then simplified to code for FOX News, CNN, Both, or Other. Participants continued to the next section of the survey where they answered the 15 true/false questions from the Templer Death Anxiety Scale (See Appendix B) (Templer, 1970). Participants were

instructed to answer these 15 questions based on how they felt *most* of the time. Random assignment was accomplished using one 4 choice question for participants to choose a symbol: @, %, &, or \*. Answers @ and & directed participants to condition 1, while answers % and \* directed participants to condition 2.

Both conditions were presented as audio of a news clip running as a video without image. Participants had the option to turn on captions that had been edited to accurately represent the dialogue. Condition 1 length was 6 minutes, 16 seconds. Condition 2 length was 5 minutes, 21 seconds. From both videos, identifying information regarding the news source and any recognizable people, were removed in order to reduce participant bias as much as possible. Condition 1, CDC compliant reporting, was an audio clip from an MSNBC news video in which the anchor interviews the director of the CDC. They discuss vaccine booster shots, and general United States pandemic response. Condition 2, CDC non-compliant reporting, was an audio clip from a FOX news video in which the anchor discussed with two doctors the efficacy of natural immunity and vaccine booster shots. For both conditions, audio clips were selected at the end of August 2021. Condition 1 audio was selected as it was the best representation of CDC supported scientific-based news that was relevant at the time of selection. Condition 2 audio was selected after hours of searching for news that both opposed CDC findings and guidelines, as well as matched with the same topic of discussion. Both news clips were determined to be an appropriate match while presenting opposing arguments. Both videos utilized can be found in the Appendix.

Following the viewing of the appropriate video, participants were asked to summarize the audio in 2-3 sentences. This question acted as a manipulation check, to ensure that all participants understood the audio they were presented with.



After viewing the video, all participants answered the same questions. Once again, participants were asked to answer 15 true/false Templer Death Anxiety Scale (1970) questions. In contrast to the previous section, the survey instructed that answers describe how participants felt *at the moment* of taking the test. Lastly participants answered three COVID-19 perceived control questions (Liu, et al. 2021). Mortality saliency was scored within subjects as well as between subjects. Perceived control was scored between subjects. Participation ended when they clicked “Submit.” Participants were given the opportunity to reach out to researchers with further questions, as well as provided with available resources should the content have dredged up discomfort. In total, one session would take about 20 minutes, given full length viewership of the assigned video.

## Results

It was hypothesized that CDC compliant reporting would result in higher mortality saliency than non-CDC compliant reporting. An independent sample t-test was used to analyze this prediction. Participants viewing CDC compliant reporting ( $N = 66$ ) had a higher mean mortality saliency report ( $M = 7.89, s = 3.21$ ) than participants viewing CDC non-compliant reporting. There was no significant difference in mortality saliency ratings between conditions  $t(127)=1.39, p=.168$ . However, these results trended towards the hypothesized direction (see Appendix D, Figure D1).

The second hypothesis expected CDC compliant reporting to result in greater perceived control than CDC non-compliant reporting. Using an independent sample t-test, no significant difference for perceived control was found between the CDC compliant reporting condition ( $M = 10.76, s = 5.12$ ) and CDC non-compliant reporting,  $t(131)=.182, p=.856$ . The perceived control from both conditions were very similar (see Appendix D, Figure D2).

Thirdly, it was hypothesized that mortality salience rates would increase after the introduction of the manipulated variable as compared to the pretest. A 2x2 mixed factorial ANOVA revealed that there was no significant interaction effect for condition  $F(1,222) = .631, p = .428$ . This result shows that the effect of the video intervention on mortality salience does not depend on whether you are in the CDC compliant or CDC non-compliant condition (see Appendix D, Figure D3).

Exploratory tests were run to analyze the difference between each gender group on the scores of perceived control within each condition. With cases selected for men, an independent sample t-test showed no significant difference between CDC compliant news ( $M = 9.59, s = 5.24$ ), and CDC non-compliant news ( $M = 9.35, s = 5.00$ ) on perceived control scores  $t(42) = .150, p = .881$ . Additionally, with cases selected for women, an independent sample t-test showed no significant difference between CDC compliant news ( $M = 11.29, s = 4.96$ ), and CDC non-compliant news ( $M = 11.27, s = 5.27$ ) on perceived control scores  $t(78) = .02, p = .99$ .

For insight into potential gender socialization differences on COVID-19 news and mortality salience, the study looked within each gender to analyze the impact of the manipulated condition on posttest scores. With cases selected for men, an independent sample t-test showed no significant difference between CDC compliant news ( $M = 7.3, s = 3.38$ ), and CDC non-compliant news ( $M = 5.88, s = 2.83$ ) on posttest scores  $t(42) = 1.44, p = .159$ . Additionally, with cases selected for women, an independent sample t-test showed no significant difference between CDC compliant news ( $M = 8.41, s = 3.24$ ), and CDC non-compliant news ( $M = 7.57, s = 3.08$ ) on posttest scores  $t(74) = 1.16, p = .25$ . There was no significant difference between conditions within each gender. This supports the findings that the news interaction was not a cause for change in mortality salience rates.

As a last exploratory analysis, participants rated where they typically source COVID-19 information. The questionnaire provided several choices, but also gave the option for participants to input other answers. Most participants reported both a social media source as well as a traditional news organization. The political bias associated with both FOX News and CNN justifies separating participants into groups for the purpose of exploratory analyses into political bias and mortality salience. These answers were then simplified to four groups. Those that reported FOX News ( $N = 23$ ), CNN ( $N = 19$ ), both CNN and FOX News ( $N = 31$ ), or other sites ( $N = 60$ ) (see Appendix D, Figure D4) . Three analyses were then conducted on the difference between FOX News groups, CNN groups, viewers of both FOX News and CNN, and those that reported any other news site. Three one way ANOVAs were utilized to analyze all four groups and their relationship to pretest death anxiety scores, posttest death anxiety scores, and perceived control. There was no significant difference between the four groups on pretest scores  $F(3,126) = .604, p = .614$ . There was additionally no significant difference between the four groups on posttest scores  $F(3,125) = .560, p = .642$ . Lastly, there was no significant difference between the four groups on perceived control scores  $F(3,129) = .048, p = .986$ . These findings would suggest that long term news exposure, and its political affiliation, do not have an impact on mortality salience.

To further this analysis regarding news political affiliation, two more one way ANOVAs were ran filtering out the “other” blended news source groups. First groups, FOX news, CNN, and both were tested against pretest death anxiety scores. There were no significant results between these three groups  $F(3,126) = 1.23, p = .302$ . Additionally, when compared for scores of perceived control there was no significant difference between the three groups  $F(3,129) =$

2.34,  $p = .077$ . This secondary analysis does have greater significance showing potential for a trend among a larger sample.

### **Discussion**

The previous research provided evidence that COVID-19 related news does have a positive effect on participants actions (Greene & Murphy, 2021). This research led to inspiration to analyze the ways that news may influence specific traits connected to health behavior. From this, the current study hypothesized changes in mortality salience and perceived control as a result of CDC compliant or non-compliant news. The results of the current study, however, were not aligned with the prior research. In analysis of all three hypotheses, the manipulation of news had no significant effect on mortality salience rates.

The overwhelming presence of death since the beginning of the COVID-19 pandemic has brought mortality to the forefront of the general population's mind at rates far higher than prior to the pandemic. One major source of death-awareness is news. Since early 2020, death rates have commonly been reported alongside other COVID-19 related information (Pyszczynski, et al., 2021). For the United States, these numbers report high death rates occurring on local soil in a way not previously seen in the past 20 years. For college students without memory of 9/11, the COVID-19 pandemic is the only personal experience of extensive U.S. deaths. Additionally, for most Americans, the consistent years-long reminder of death via news is a new experience. Given that news media plays a large role in public health and the dissemination of health information, the current study has aimed to isolate mortality salience as a factor of behavior in reaction to COVID-19 related news.

The current study manipulated conditions of CDC compliant and CDC non-compliant news reporting, to measure its effects pre and post manipulation on mortality salience within

each condition group. The study also provides the opportunity to analyze differences in post-test reporting of mortality salience compared between conditions of CDC compliant and CDC non-compliant news reporting. Additionally, the study aimed to identify the impact of CDC compliant and CDC non-compliant news reporting manipulation on participant's perceived control of COVID-19. Following informed consent and a short demographics questionnaire, participants were asked to respond to 15 true/false statements to measure mortality salience (Templer, 1970). Participants were then randomly assigned condition 1 (CDC-compliant reporting) or condition 2 (CDC non-compliant reporting). In each condition respondents listened to a ~5 minute audio clip from a reputable news media company. Using the exact same scale, participants once more filled out the 15 true/false statements to measure mortality salience (Templer, 1970). Additionally, participants were asked to respond to three 7-point likert scale statements measuring their COVID-19 perceived control (Liu, 2021).

For all three hypotheses, the anticipated differences were not found statistically significant. Results were analyzed with a mixed factorial ANOVA. This test indicated no significant difference in mortality salience between the CDC compliant and CDC non-compliant reporting conditions. One likely cause of this is the time between the death reminder, and the second questionnaire, and these results indicate that within the short presentation, and immediate measurement of mortality salience, the CDC reliance of news reporting had no impact on the participant's reporting of mortality salience. Even when looking within the results for each gender (male or female) specifically, there was no difference between the reporting of mortality salience between the two conditions. The lack of significant difference between conditions even when looking within gender specifically, may be evidence of the homogeneity of the sample. The majority of participants are close in age, from 18-22. All participants attend the same university.

In this case, the low diversity among participants resulted in less variability among reported scores. These are findings that are further echoed in the results for the following two hypotheses.

The second hypothesis expected CDC compliant reporting to predict higher scores of perceived control. Analyzing the results using an independent sample t-test found no significant relationship between the condition and perceived control. This indicates that the one-time presentation of the news clip does not have an effect on the participants' reported scores of perceived control. This finding is inconsistent with the findings from Greene and Murphy (2021) in which even a one time introduction of a misinformation article showed a change in the behavioral intentions of participants. While the current study examined death anxiety as the dependent variable rather than behavioral intentions, research building off of the Terror Management Health Theory (Goldenburg and Arndt, 2008) would indicate that, in the case of health behaviors specifically, this anxiety should show a difference. The current study was conducted over a year after the recruitment dates listed in the Greene and Murphy (2021) article. This gave participants more than enough time to become desensitized to the death reminders in the news. The tolerance of participants' mortality saliency levels are thus a contributing factor as to the not-significant findings of the present study. As an additional factor for mortality saliency tolerance, The Greene and Murphy (2021) sample had a mean age of around 42, starkly different from the current study's 19. Younger populations generally have lower levels of mortality saliency as increasing age tends to be a risk factor for greater fear of death. This age difference may have added to the inconsistencies between the background research and current study.

This factor of desensitization may play a larger role in participants' mood and reports than originally anticipated. While no conclusive research has yet been published regarding COVID-19 news, studies examining violence may show effects similar to that of COVID-19

reporting. Scharrer (2008) found that following extended exposure to violent news, participants' reported feelings of habituation in regards to violence. In these cases, the violence simply became a part of life, and strong emotional reactions declined. The present study conducted in late 2021 compared to research conducted in mid-2020 shows clear inconsistencies that provide evidence of a similar effect occurring with COVID-19 news, as occurred in the referenced 2008 study.

Stemming from Martin and Kamins (2019) in which messaging emphasizing social loss leads to the higher rates of mortality salience, the third hypothesis expected to see an increase in mortality salience scores from the pretest to posttest reports. In the mixed factorial ANOVA analysis all results were examined for the effect of news audio clip intervention. These results found no significant difference between the pretest and posttest. This indicates that the presentation of the news clip did not influence mortality salience reports. Following this, it was logical to test within each condition. The CDC compliant new condition showed no significant difference between pretest and posttest. Additionally, the CDC non-compliant condition also showed no significant difference between the pretest and posttest. The results of both of these analyses within condition are consistent with the initial analysis of hypothesis three. It seems that the manipulation of the news clip source does not influence immediate reports of mortality salience. These results, however, are inconsistent with the prior findings from Martin and Kamins (2019). The main difference being the subject of the messaging presented. The inconsistency may support the 2019 findings that social loss is a critical factor in messaging influencing mortality salience. Gender was then entered as a variable. Males within both conditions showed no significant difference before and after manipulation, further evidence that the manipulation of news sources does not influence rates of mortality salience. Additionally

consistent was the results of females within each condition, in which no significant difference was observed. The gender controlled results further support the lack of significance.

Prior research suggests that many people are currently living in a consistent state of death-thought priming (Pyszczynski, et al, 2021). The current study is indicative of these previous findings. The presentation of the manipulated variable may not have had a significant effect because participants' death-thought awareness was primed prior to being measured. This priming would have been the result of existing in a world constantly discussing the COVID-19 pandemic. Given that the pandemic presents a constant state of death awareness, as theorized by Zhong, et al. (2021), the current study provides further evidence to this claim, as indicated by the lack of change after the attempt to prime death thought. The not significant results may indicate that the manipulation was not extreme enough to change the death-thought awareness from its pretest state.

The current study's findings do show similarities to the study conducted by Giri and Maurya (2021). This 2021 study found that attitudes may change as a result of long term exposure to a specific news perspective. The current study's non-significant findings as a result of a short term introduction of news, may point to the solidification of attitudes as a result of long term exposure. In this way, the attitudes from the participants' regular news exposure would not be so easily shaken by one short audio clip. Without concise findings showing greater efficacy of mortality salience manipulation in long term news exposure in comparison to short term news exposure, analysis must examine studies that do both. By comparing the current study to the likes of Giri and Maurya's (2021) study, there is strong evidence that long term exposure is far more effective than short term exposure at influencing mortality salience as well as overall mood. This also follows Freeman et al.'s (2020) findings indicating that conspiracy beliefs are



consistent with hesitancy to follow government (CDC) guidelines. True belief in conspiracies would be consistent with long-term exposure to the source, as opposed to one time introduction.

In an attempt to analyze politics as a factor, the diverse news source reporting from participants was broken into four different groups and compared against rates of pretest and posttest death anxiety as well as perceived control. All of these analyses were not significant. These results were particularly surprising, as the previous research, such as Giri and Maurya's (2021) study mentioned above, suggest that long term exposure is vital to the development of attitudes. The groups of news sources were broken down into FOX News, and CNN, leaving the other reported news responses to blend together. This may have led to less effective analyses, as the largest group ("other news site") combined participants regardless of their political affiliation. This blend would result in the largest variability of answers, and least significant results. To further support this proposal, the "other" group was filtered out, and the three remaining conditions were then compared. No further significance was found, however there was evidence that perceived control may show differences between news viewing and perceived control if future research chooses to pursue, on the basis of a near significant result.

Further influencing the current studies hypotheses, Lim et al. (2021) found evidence that COVID-19 news with a focus on death, in comparison to news without a focus on death, increased the likelihood for participants to share the news story. The current study utilized this foundation by anticipating a change in attitude simply as a result of the introduction of the news audio bite. The lack of significance found in the current study supports the assumptions made in the Terror Management Theory (1986) where in immediate measurement of reactions to death priming results in behavioral intentions directly related to the fear, rather than the mindset and attitude changes that occur after a greater lapse in time between death priming and reaction

measurement. The goal of the current study was to find a mindset change, yet measured immediately following the manipulation effect. The lack of significance shows evidence for the Terror Management Theory's explanation of fear coping.

Lastly, much of the background information utilized in the study was dependent on the Terror Management Theory and the Terror Management Health Model (Greenberg et al., 1986, Goldenburg and Arndt, 2008). Jimenez et al. (2021) found vital evidence that indicated that news regarding COVID-19 frequently left viewers feeling helpless. In these cases, the viewers often shied away from following guidelines, as they no longer felt that it was worth the trouble. Fatalistic thinking seemed to be the downfall that led participants from healthy, motivational anxiety, to helplessness and panic. The analysis of the current study aimed to locate where the content of the news could play into this effect. The hypothesis that COVID-19 news would lead to greater perceived control was developed as a result of the evidence suggesting that proper guidelines would provide participants with the ability to protect themselves. The studies' insignificant findings indicate there may be greater impacts of long term exposure than short term, for these measurements.

### **Strengths and Limitations**

Primarily, this study shows evidence that within the population of predominantly traditional college students, the source of news, for a one-time observation, does not affect the mortality salience reports in comparison to mortality salience moments prior to listening to the audio. This research provides grounding for future research into the impacts of news in relation to time as an impact for the priming of death awareness. Additionally, this study raises questions about the comparison between the natural state of death-awareness provided through living during a pandemic, and the introduction of short news clips. Knowledge of the lack of

significance in regards to both perceived control as well as mortality salience aids the identification of which concepts can be manipulated in this way. Given the constraints of this study, other variables were not gathered such as previous experiences related to COVID-19 and death. It is very likely that personal experience related to COVID-19 has an impact on mortality salience and perceived control. This gap could be rectified in further studies.

These findings are likely indicative of the environment for which they are found. Further research to analyze the impacts of long term news exposure may find greater impacts on mortality salience than the current study's use of one ~5 minute audio clip. In addition, some participants anecdotally noted challenges with the strictly-audio based layout of the manipulated condition. While this presentation was selected in hopes of minimizing bias that would come with clear identification of the condition's original source, this may have also halted some participants from absorbing the news as naturally as they may.

### **Implications and Future Directions**

This research could be expanded in several directions. From a public health side perspective, it would be useful to understand how this manipulation would affect other populations, such as parents making decisions regarding their children's actions. Furthermore, expanding this research to high risk populations, such as those who are taking immunosuppressants or who are elderly. Additionally, the news clips chosen for the current study were generic overviews of the COVID-19 pandemic, the study could be expanded to focus on specific areas of the pandemic, such as the death toll, long term effects of infection, or the vaccine.

Extensive efforts were taken to separate the current study from political bias. This was done through careful selection of the news intervention, the audio-based format of the

manipulation, and the careful focus on CDC compliance. Exploratory analyses pointed to the political diversity within the sample, and while there were no significant findings within the present study, these analyses may provide inspiration for future research with a focus on how political bias of both the participant and news source, influence mindsets and behavioral intentions.

A larger scale study needs to be conducted to examine diverse populations representative of American populations in order to be effectively applied within the field of public health. A larger scale study could examine additional variables. Further research should also emphasize variables such as participants' relationship with COVID-19, for example asking if participant's had experienced prior illness or the death of a close family member.

Public health directors and news media companies should consider the very real impact that their information has on the general health. By identifying what psychological concepts, such as mortality salience, can be utilized to manipulate public behavior, public health may advance methods of bringing safety during times of medical crisis, such as the COVID-19 pandemic. Future research should focus on analyzing news exposure long term; additionally, variables such as politics and the demographics of the news media company itself may provide insight as to factors that influence mortality salience.

## References

- Basch, C. H., Hillyer, G. C., Erwin, Z. M., Mohlman, J., Cosgrove, A., & Quinones, N. (2020). News coverage of the COVID-19 pandemic: Missed opportunities to promote health sustaining behaviors. *Infection, Disease & Health*, 25(3), 205–209.  
<https://doi.org/10.1016/j.idh.2020.05.001>
- Ben-Ami Bartal, Shan, H., Molasky, N. M. R., Murray, T. M., Williams, J. Z., Decety, J., & Mason, P. (2016). Anxiolytic Treatment Impairs Helping Behavior in Rats. *Frontiers in Psychology*, 7, 850–850. <https://doi.org/10.3389/fpsyg.2016.00850>
- Bevan, A. L., Maxfield, M., & Bultmann, M. N. (2013). The effects of age and death awareness on intentions for healthy behaviors. *Psychology & Health*, 29(4), 405–421,  
<http://dx.doi.org/10.1080/08870446.2013.859258>.
- Burhamah, W., AlKhayyat, A., Oroszlányová, M., AlKenane, A., Almansouri, A., Behbehani, M., Karimi, N., Jafar, H., AlSuwaidan, M. (2020). The psychological burden of the COVID-19 pandemic and associated lockdown measures: Experience from 4000 participants, *Journal of Affective Disorders*, 277(977-985), 0165-0327,  
<https://doi.org/10.1016/j.jad.2020.09.014>.
- Centers for Disease Control and Prevention. (2019, March 20). *1918 Pandemic (H1N1 virus)*.  
<https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html>.
- Courtney, E. P., Felig, R. N., & Goldenberg, J. L. (2021). Together we can slow the spread of covid-19: The interactive effects of priming collectivism and mortality salience on

virus-related health behaviour intentions. *British Journal of Social Psychology*.

<https://doi.org/10.1111/bjso.12487>.

Crum, A.J., Salovey, P., & Achor, S. (2013). Rethinking Stress: The Role of Mindsets in Determining the Stress Response. *Journal of Personality and Social Psychology*, 104(4), 716–733. <https://doi.org/10.1037/a0031201>

Freeman, D., Waite, F., Rosebrock, L., Petit, A., Causier, C., East, A., . . . Lambe, S. (2020). Coronavirus conspiracy beliefs, mistrust, and compliance with government guidelines in England. *Psychological Medicine*, 1-13. doi:10.1017/S0033291720001890

Frieson, R., & Lippmann, S. (2021). Let's Apply the Lessons from the AIDS Crisis to the COVID-19 Pandemic. *Journal of Family Practice*, 70(2), 59.  
[https://link.gale.com/apps/doc/A656723268/AONE?u=viva\\_lynch&sid=bookmark-AONE&xid=7bb021c9](https://link.gale.com/apps/doc/A656723268/AONE?u=viva_lynch&sid=bookmark-AONE&xid=7bb021c9).

Giri, S. P., & Maurya, A. K. (2021). A neglected reality of mass media during COVID-19: Effect of pandemic news on individual's positive and negative emotion and psychological resilience. *Personality and Individual Differences*, 180, 110962.  
<https://doi.org/10.1016/j.paid.2021.110962>.

Goldenberg, J. L., & Arndt, J. (2008). The implications of death for health: A terror management health model for behavioral health promotion. *Psychological Review*, 115(4), 1032–1053.  
<https://doi.org/10.1037/a0013326>

Greenberg J., Pyszczynski T., & Solomon S. (1986) The Causes and Consequences of a Need for Self-Esteem: A Terror Management Theory. In: R.F. Baumeister (Eds.) *Public Self and*

*Private Self. Springer Series in Social Psychology.* Springer, New York, NY.

[https://doi.org/10.1007/978-1-4613-9564-5\\_10](https://doi.org/10.1007/978-1-4613-9564-5_10)

Greene, C. M., & Murphy, G. (2021, June 10). Quantifying the Effects of Fake News on Behavior: Evidence From a Study of COVID-19 Misinformation. *Journal of Experimental Psychology: Applied*. Advance online publication.

<https://doi.org/10.1037/xap0000371>

Jimenez, T., Restar, A., Helm, P. J., Cross, R. I., Barath, D., & Arndt, J. (2020). Fatalism in the context of COVID-19: Perceiving coronavirus as a death sentence predicts reluctance to perform recommended preventive behaviors. *SSM - Population Health* 11.

<https://doi.org/10.1016/j.ssmph.2020.100615>.

Lim, A. J., Tan, E., & Lim, T. (2021). Infodemic: the effect of death-related thoughts on news-sharing. *Cognitive Research: Principles and Implications*, 6(1), NA.

<http://dx.doi.org/10.1186/s41235-021-00306-0>.

Liu, Y., Lv, X., & Tang, Z. (2021). The impact of mortality salience on quantified self behavior during the COVID-19 pandemic. *Personality and Individual Differences*, 180, 110972.

<https://doi.org/10.1016/j.paid.2021.110972>

Nearly one-fifth of Americans know someone who has died of COVID-19, survey says. (2021). *UChicago News*.

<https://news.uchicago.edu/story/nearly-one-fifth-americans-know-someone-who-has-died-covid-19-survey-says#:~:text=Nearly%20one%2Dfifth%20of%20Americans,says%20%7C%20University%20of%20Chicago%20News>.

Pyszczynski, T., Lockett, M., Greenberg, J., Solomon, S., Yang, M., Hoffman, L., & Morrill, Z.

(2020) Terror Management Theory and the COVID-19 Pandemic. *The Journal of humanistic psychology*, 61(2). <https://doi.org/10.1177/0022167820959488>.

Shah, A. (2021). COVID-19 and Mental Health. *Psychiatric Annals*, 50(12), 519-520, <https://doi.org/10.3928/00485713-20201104-01>.

Scharrer. (2008). Media Exposure and Sensitivity to Violence in News Reports: Evidence of Desensitization? *Journalism & Mass Communication Quarterly*, 85(2), 291–310. <https://doi.org/10.1177/107769900808500205>

Templer, D. (1970) The Construction and Validation of a Death Anxiety Scale, *The Journal of General Psychology*, 82(2), 165-177, DOI: 10.1080/00221309.1970.9920634

Templer, D., Awadalla, A., Al-Fayez, G., Frazee, J. Bassman, L. Connelly, H. Arikawa, H. & Abdel-Khalek, A. (2006). Construction of a Death Anxiety Scale-Extended. *Omega-journal of Death and Dying*, 53, 209-226, DOI: 10.2190/BQFP-9ULN-NULY-4JDR.

The COVID-19 infodemic. (2020). *The Lancet Infectious Diseases*, 20(8), 875. doi:[http://dx.doi.org/10.1016/S1473-3099\(20\)30565-X](http://dx.doi.org/10.1016/S1473-3099(20)30565-X)

Thompson, Ata, R. N., Roehrig, M., & Chait, S. R. (2012). Tanning: Natural and Artificial. <https://doi.org/10.1016/B978-0-12-384925-0.00122-X>

Yerkes, R. M., & Dodson, J. D. (1908). The relation of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology*, 18(5), 459–482. <https://doi.org/10.1002/cne.920180503>



Zhong, R., Paluch, R. M., Shum, V., Zatzick, C. D., & Robinson, S. L. (2021). Hot, cold, or both? A person-centered perspective on death awareness during the COVID-19 pandemic. *Journal of Applied Psychology*, 106(6), 839-855.

<http://dx.doi.org/10.1037/apl0000931>

**Appendix A****Demographic Questions**

Please answer the following questions as they describe you.

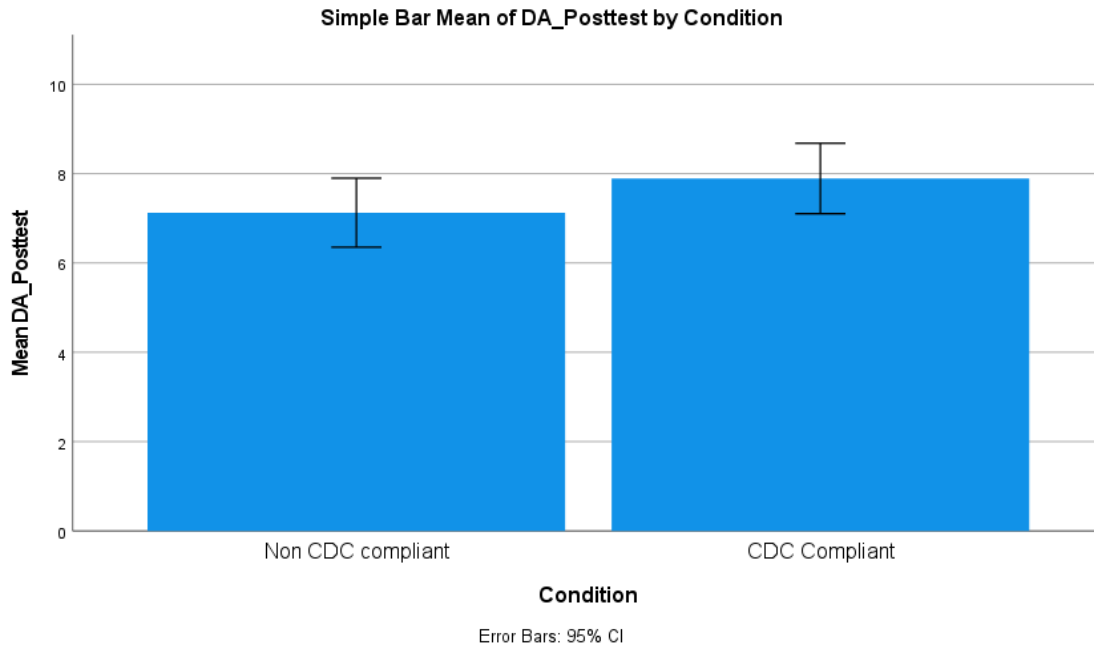
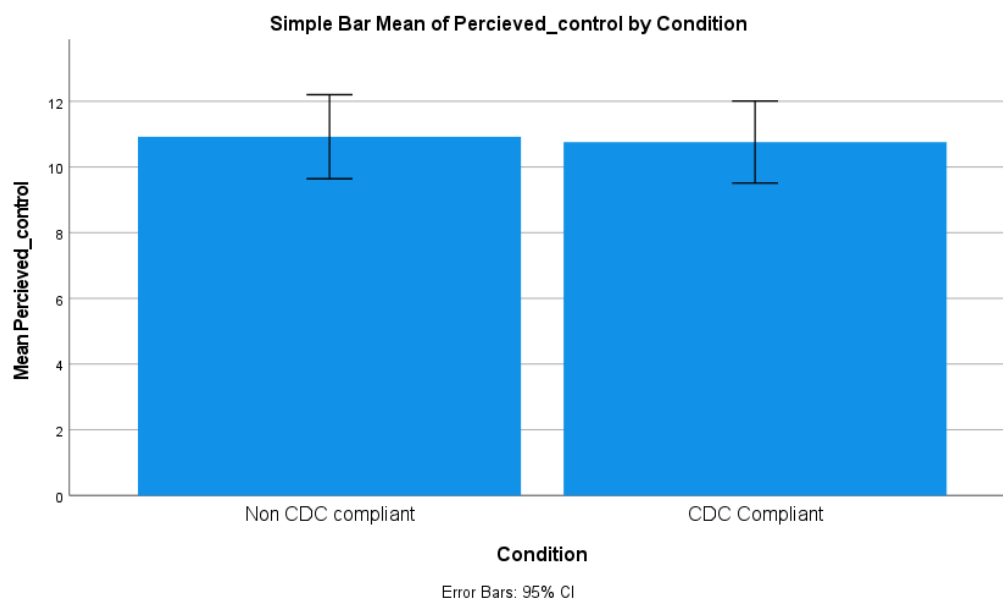
Please input your age.	18, 19, 20, 21, 22, Other
What is your gender?	Female, Male, Non-Binary, Prefer not to say, Other
What is your race/ethnicity? (Please choose all that apply)	White, Hispanic, Black or African American, Asian, Indigenous American or Alaska Native, Native Hawaiian or Pacific Islander, Prefer not to say, other
Where do you go for COVID-19 news? (Please pick all that apply)	FOX news, CNN, MSNBC, Google News, NBC news, Twitter, Facebook, Instagram, Snapchat, other

**Appendix B****Templer Death Anxiety Scale (Templer, 1970)**

Key	Content
T	I am very much afraid to die.
F	The thought of death seldom enters my mind.
F	It doesn't make me nervous when people talk about death.
T	I dread to think about having to have an operation.
F	I am not at all afraid to die.
F	I am not particularly afraid of getting cancer.
F	The thought of death never bothers me.
T	I am often distressed by the way time flies so very rapidly.
T	I fear dying a painful death.
T	The subject of life after death troubles me greatly.
T	I am really scared of having a heart attack.
T	I often think about how short life really is.
T	I shudder when I hear people talking about a World War III.
T	The sight of a dead body is horrifying to me.
F	I feel that the future holds nothing for me to fear.

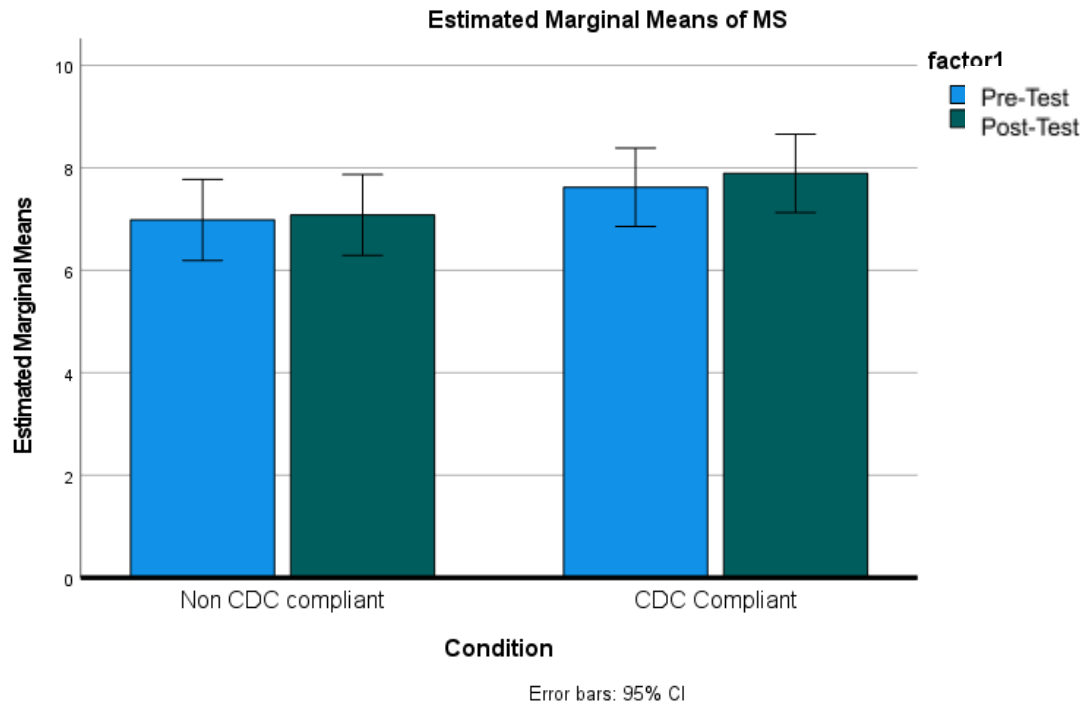
**Appendix C****COVID-19 Perceived Control (Liu, et. al., 2021)**

Statement	1 (Not at all) - 7 (Very Much)
During the COVID-19 Pandemic, I feel helpless	1-7
During the COVID-19 Pandemic, I feel powerless	1-7
During the COVID-19 Pandemic, I feel like I don't have a sense of control	1-7

**Appendix D****Figure D1***Mortality Salience Posttest Scores Between Conditions***Figure D2***Perceived Control Scores Between Conditions*

**Figure D3**

*Mortality Salience Before and After News Clip*



**Figure D4**

*Participants' Reports of Typical News Source*

