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Comparing Levels of Situational Empathy based on medium of exposure to Covid-19 Mortality Information: Does Political Affiliation Impact Levels of Situational Empathy?

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Honors Project

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Introduction

COVID-19 and a global pandemic impacted the world in early March 2020. A global pandemic was something many nations were not properly prepared for and individuals across the globe have experienced a multitude of struggles due to the COVID-19 pandemic. One of the largest impacts of COVID-19 is on health. Not only have millions of individuals worldwide died because of the virus but there is emerging evidence that COVID-19 can create lifelong health compilations due to its negative impact on physical activity (Park et al., 2022). Front-line workers have also experienced physical and mental health struggles as a direct result of providing medical assistance to patients with COVID-19 (Shaukat, 2020). The negative effects COVID-19 has on health are clearly extensive. Globally, wearing masks in public and social distancing were recommended to decrease one's risk of contracting the virus. Once COVID-19 vaccinations and boosters were made available for public use, they were also recommended as a preventative measure against the potentially deadly virus (*Covid-19 Frequently Asked Questions*, 2022). In the United States, 70% to 90% of the population needs to be infected with COVID-19 to reach herd immunity, and it is important to note that herd immunity is typically not achieved without an effective vaccine (Hill, 2020). Herd immunity may be difficult to reach in the United States because there are different health beliefs surrounding COVID-19 among individuals with different political affiliations (Bhochhibhoya, 2021). A poll from Pew Research found that 56% of surveyed republicans reported a willingness to receive a COVID-19 vaccine while 83% of democrats reported they would (Funk, 2021). Psychological and social factors such as empathy and political affiliation may be a novel way to help understand these discrepancies in the public's response to keeping citizens safe. An individual's empathic response to different methods of viewing COVID-19 mortality may possibly be moderated by an individual's political affiliation.

Prior explanations for understanding public health response discrepancies focus on the brain's cognitive and perceptual systems.

Numbness To Numbers

The theory backing this research is the idea that people experience a psychophysical numbness to numbers. Psychophysical numbing is described as "the devaluing of individual human lives as either the number of deaths or the number of people at risk grows" (Fetherstonhaugh, 2001, p. 1). It is important to note the potential impact this psychophysical phenomenon can have on life-saving interventions. In their research that investigated the relationship between life-saving interventions and psychophysical numbing, Fetherstonhaugh et al. (1998) highlighted that "the value of a life-saving intervention is inversely proportional to the magnitude of the threat rather than being determined by the absolute number of lives the intervention can save." In turn, psychophysical numbing can make individuals, groups, and governments decision-making distorted in response to natural disasters, disease, and national conflict. This manifests to where important decision-makers are insensitive to the values of many human lives which can lead to them adopting policies or using strategies that will ultimately lead to a greater death toll (Fetherstonhaugh, 2001, p. 1).

Psychophysical numbing is rooted in the fact that the brain's cognitive and perceptual systems sensitize individuals to small changes in their environments which is at the expense of having the ability to respond and detect large changes (Fetherstonhaugh, 2001, p. 2) Research in sensory psychophysics states that perpetual increases in the immensity of stimuli to the brain's cognitive and perceptual systems will most likely create less of a change in response. Therefore, when this psychological function intertwines with the need to perceive the value of human lives, psychophysical numbing may occur as the inability to process large losses of human life

(Fetherstonhaugh, 2001, p. 3). Friedrich et al. (1999) research focused on understanding ways to alleviate the potential negative effects of psychological numbing. Their research found that participants tend to think in proportional terms when given the power to make life-saving interventions. This essentially suggests that a "life saved is somehow worth less when it is seen as only a "drop in the bucket" of some larger problem (e.g., 2.2% rather than 50% of the perceived need in this example)" (Friedrich et al., 1999). This phenomenon could weaken an individual's ability to rational, consistent, and equitable decision-making.

The world saw the loss of life on a huge scale due to the deadly nature of COVID-19. Individuals may have had the inability to process the high mortality rate due to psychophysical numbing. This may be dependent on multiple factors such as if an individual is constantly surrounded by other individuals negatively affected by COVID-19 (e.g., medical professionals). In these scenarios, individuals are experiencing their own and others' personal stories of COVID-19 mortality. There are also individuals who may have no one in their personal lives that has died or become seriously ill due to COVID-19. These individuals may not experience someone's personal story of COVID-19 mortality. Research has found that news articles with exemplification described from an internal or external view developed greater narrative involvement; in turn, recipients' story-consistent attitudes and behavioral intentions were psychologically persuaded (Oschatz et al., 2021). Oschatz et al.'s particular study also found that when narrative involvement increases, so does the call for institutional and civic responses to scandal. The gap between humans understanding the huge loss of life due to COVID-19 may not be completely explained by psychophysical numbing. An individual's situational empathy could be influencing their ability to fathom the growing COVID-19 death toll.

Empathy

Definitions of empathy have varied throughout history and across disciplines (Preston & de Waal, 2002). In 1903, Lipps defined empathy as "feeling into" others' individual emotional states or *"Einfühlung"* (Preston & de Waal, 2003). To understand empathy, one must understand the psychological processes that contribute to "feeling into". Some research suggests that empathy is primarily the cognitive process of adopting or imagining someone else's perspective or situation (Lamm et al., 2007). Many individuals agree with this characterization of empathy but also include that empathy requires an individual to be consciously aware that they are experiencing another individual's emotional state to promote other-oriented concern (de Vignemont & Singer, 2006). These accepted psychological explanations for empathy ultimately require "putting oneself into somebody else's shoes" (Pfeifer & Dapretto, 2009). The most common basic definition of empathy is "the ability to understand and experience the internal states of others" (Karnaze, 2022). Individuals can experience empathy for others when they are in negative and positive emotional states. This ability is linked to more satisfying and supporting relationships. Empathy is also linked to impacting people's health decisions (Karnaze, 2022).

Two studies from 2021 found the first evidence that the affective emotions individuals experience from their private and public-spaced social interactions can shape their practice of reducing infectious behaviors (West et al., 2021, p. 259). There is a growing body of research that highlights prosocial psychological processes as a key factor in the promotion of health behaviors (i.e., mask-wearing, handwashing, and social distancing during pandemics and epidemics; Pfattheicher et al., 2020; Puterman et al., 2009). Much of this research has been sparked by the COVID-19 pandemic. Although these recent studies do not focus on the possible additional relationship between psychophysical numbness to numbers, empathy, and COVID-19.

Empathy and COVID-19

Research that focuses on the relationship between empathy and the public's response to the COVID-19 pandemic is currently limited. The direct explanation for this lack of research is that COVID-19 impacted world health relatively recently. It is uncertain when more studies will be initiated and completed. New research presented by West et al., and Pfattheicher et al., in 2021 focuses on how empathy could be associated with an individual's practice of reducing infectious behaviors. The present study is looking to test if the mode with which individuals view and absorb COVID-19 mortality information causes their emphatic responses to change. In 2012, a study found that narrative-formatted, opposed to non-narrative, news stories produce an empathic process that in turn improves an individual's view of stigmatized groups (Oliver et al., 2012). This finding is what the present study is attempting to build on, which is that the news format may influence individuals' empathic responses. Applying this concept to the COVID-19 pandemic will hopefully attempt to fill in some of the gaps in this area of research.

Political Affiliation and COVID-19

The United States has experienced a rise in political discourse during the COVID-19 pandemic. COVID-19 struck during a presidential election year, so discussions of politics, specifically which party was ideal to run the country and which party is making the appropriate COVID-19 health recommendations, were heavily discussed throughout 2020 into the present year. The parties that are being referred to are Democrat, Republican, and third party (The Green Party, Libertarians, etc.) with democrats being the "left" and republicans being the "right". Many individuals' behavior is influenced by their identified political party or political affiliation (e.g., health behavior) (Young et al., 2022). They look to their parties' political leaders to inform them of what is considered effective health behaviors (Grossman et al., 2020). This phenomenon

occurred while the COVID-19 pandemic impacted the United States during a presential election year. The effects of this concept are already being reported in COVID-19 research.

The spread of COVID-19 initiated mass school closures and large gathering bans in March 2020 to prevent the spread of the virus (Yeung et al., 2020). Although, republican politicians were then insistent the US economy be reopened as early as April 2020 (*New York Times*, 2020). A recent study that nationally surveyed US residents from April to May 2020 found political polarization with all questions related to COVID-19 risk perception and risk mitigation (Bruine de Bruin et al., 2020). Face masks and social distancing were recommended as preventative measures to stop the spread of COVID-19 9 (*Covid-19 Frequently Asked Questions*, 2022). The same study found that Democrats were more likely to wear face masks (1.76 times) and avoid public spaces or crowds (1.45 times) than Republicans (Bruine de Bruin et al., 2020). Republican political leaders promote behavior that may increase infection and republicans may be influenced by this behavior (Grossman et al., 2020).

Differences in psychological factors play a key role in individual attitudes surrounding mask use (Mallinas et al., 2021). These psychological factors have been found to be heavily associated with pro and anti-mask attitudes. Specifically, reactance was associated with anti-mask attitudes while empathy, perceived norms pertaining to wearing masks, fear of COVID-19, and trust in healthcare professionals was associated with pro-mask attitudes. Rains et al., (2022) found "that political partisanship could function to shape the importance of a freedom that has been threatened by a governmental mandate". Conservative ideologies emphasize liberty and personal autonomy for a large amount of health issues so Republicans may be less likely to follow mask mandates (Rains et al., 2022). Previous research has indicated that psychological factors like

individual empathy and political affiliation impact covid-related empathy and willingness to participate in recommended COVID-19 health preventative measures.

The present study believes that identifying as a Democrat will strengthen empathy relationships because they are across the board more concerned about COVID-19 (Bruine de Bruin et al., 2020). Also, Democrats will show equally higher levels of empathy for the exposure to COVID-19 mortality statistics and secondhand accounts of personal mortality loss due to COVID-19. Although a stronger empathy relationship will most likely occur with the secondhand account compared to the statistics sheet. Republicans will also show higher empathy levels for the secondhand account, but it will still be less strong than the Democrat's relationship. This is because the strongest effects will come from the secondhand account condition. The current study is interested in the impact of COVID-19 information on empathy and is seeking to see if political ideology impacts an individual's understanding of COVID-19.

Present Study

Psychological research surrounding COVID-19 is new and rapidly evolving. In March 2020, an abundance of COVID-19 information flooded media outlets which created an influx of potentially false, non-scientifically sound content readily available to U.S. citizens. This influx of COVID-19 information has created differing views and opinions surrounding the risk and severity COVID-19 pandemic, many of which are heavily intertwined with individual political affiliations (Bhochhibhoya et al., 2021, p. 6). We believe it is important to explore how political ideological responses to COVID-19 can affect people's views towards COVID-19 mortality. Theory rooted in psychophysical numbness to numbers explains how this psychological phenomenon can lead to an individual's inability to perceive large losses of human life (Fetherstonhaugh, 2001). Empathy is also linked as a factor in the promotion of health behaviors

(West et al., 2021, p. 259). An individual's dispositional and situational empathy may influence their perception of COVID-19 mortality when presented with either COVID-19 mortality statistics or secondhand accounts of personal mortality loss due to COVID-19. Our methods of comparing the empathy levels of individuals viewing either COVID-19 mortality statistics or secondhand accounts of personal mortality loss due to COVID-19 have not been researched prior. The research question for this study is asking if the exposure to COVID-19 mortality statistics compared to the exposure to secondhand accounts of personal mortality loss due to COVID-19 causes a person's empathy to differ. The hypothesis of this study is that people exposed to secondhand accounts of personal mortality loss due to COVID-19 have higher levels of empathy compared to people exposed to COVID-19 mortality statistics. This hypothesis is driven by previous findings that show narrative-formatted news producing more empathic processes along with the real-world effects of psychophysical numbness to numbers (Oliver et al., 2012; Fetherstonhaugh, 2001).

Method

Participants

Participants of this study will be comprised of undergraduate students attending Bowling Green State University, a public university in Northwest Ohio. Individuals at least 18 years old can earn 1.5 SONA credits via Sona Student Research Scheduler which is where the study electronically available for participation. Recruitment for participants will begin in December 2022 and continue until May 2023. Participants will be recruited through flyers, university emails, and an incentive for extra credit for a pre-approved course. Demographic information like participants' gender identity, race, ethnicity, and age will be collected and reported after recruitment ceases.

Toronto Empathy Questionnaire (TEQ, Spreng, Mckinnon, & Levine, 2009)

The TEQ is a unidimensional 16-item self-report questionnaire that utilizes a 5-point Likert scale (1 = Never, 5 = Always) to measure trait empathy using statements that ask about individual social experiences. Some of these statements are, "I have tender, concerned feelings for people less fortunate than me" and "I can tell when others are sad even when they do not say anything." The scores from the individual items will be used to create a sum for an overall empathy score. With this, higher summed scores indicate higher levels of self-reported empathy. Negatively worded items are reverse-coded and then scored. TEQ is widely used throughout empathy research, and it has been shown to be positively correlated with social skills and other self-reported empathy measures (Spreng et al., 2009, p. 68-69). Internal consistency reliability will be calculated for the TEQ.

Interpersonal Reactivity Index (IRI, Davis, 1980, 1983)

The IRI is a self-report questionnaire that measures trait empathy with four subscales that contain seven items each, totaling 28 items, using a 6-point Likert scale (0 = Does Not Describe Me Well, 5 = Describes Me Very Well). The subscales are perspective taking (PT), empathetic concern (EC), personal distress (PD), and fantasy (FS) which relate to an individual's ability to feel empathy in an imagined scenario. We utilized a modified version of the IRI to measure situational empathy related to the COVID-19 pandemic. Modification was used on the IRI so only participants' empathic responses to the condition they were exposed to would be measured. Therefore, the items will be COVID-19-specific. Only items from the PT and EC subscales will be included (I.e., "I try to understand the perspectives of those impacted by loss due to COVID-19" and "I am not disturbed by others' misfortunes due to COVID-19"). Participants' scores will be added together within each PT and EC subscale to produce a sum from each subscale. The

subscale sums will be added together to generate a total sum score for empathy. Some of the items will need to be reversed coded and then scored. Higher summed scores indicate higher levels of self-reported empathy. IRI is widely used throughout empathy and personality research and has shown reliability (e.g., internal consistency reliability) and strong correlation with other self-report measures of empathy and imagination (e.g., construct validity; Davis, 1980, pg. 16-17). Internal consistency reliability will be calculated for the IRI.

Experimental Conditions

Participants will be randomly assigned to either the COVID-19 mortality statistic sheet condition or COVID-19 mortality video interview condition.

Statistics Sheet Condition

Participants will be asked to view the COVID-19 mortality statistics sheet for a full 3 minutes and are unable to continue from this condition until the whole time period ceases. The statistical condition includes the total deaths due to COVID-19 up to August 13, 2022, as well as mortality by age group (see Figure A1). To ensure quality data collection, participants will be presented with multiple attention checks after the condition to ensure they were paying attention throughout. These attention checks will include questions like, "How many people have passed from COVID-19 as of 8/13/2022?", "What was the most common comorbidity associated with deaths due to COVID-19?", and "Which age group had the highest morbidity rate?".

Video Interview Condition

Participants will be asked to watch a 3-minute-long video where a speaker describes the personal loss of multiple loved ones the COVID-19 during the pandemic. The participants will be unable to continue with the survey until the whole time period ceases. To strengthen the

quality of the data collected, participants will be presented with multiple attention checks after the condition to ensure they were absorbing the information presented in the video condition. These attention checks will be, "In what month did the speaker's grandparent and parent die?", "Who informed the speaker that his grandfather had passed away?", and "How frequently was the speaker able to get in touch with his grandfather while in the hospital?".

Moderators

It is important to consider the various factors that moderate empathetic concern for those affected by the COVID-19 pandemic. Therefore, we have included three self-report questionaries before the experimental conditions and at the end of the survey to avoid any priming.

Political Affiliation

One possible moderator for empathetic concern for the COVID-19 pandemic is individual political affiliation. To measure political affiliation, we included a 5-point Likert scale for participants to score themselves on five levels of agreement ranging from strongly agree to strongly disagree. The Likert scale asks participants if they identify as liberal or conservative, Republican, Democrat, or Third Part, and if they agree with the way the COVID-19 pandemic was handled by government officials from March 2020 to January 19th, 2021, and January 20th, 2021, to present. This scale will be evaluated as a continuous variable. More negative values reflect Democrat ideology and more positive values reflect Republican ideology. Strongly disagree will being one all the way to five being strongly agree.

Personal Loss

One's own personal loss due to the COVID-19 virus likely impacts their empathetic concern for those affected by the COVID-19 pandemic. To measure personal loss, we included

the question "Have you experienced loss due to the COVID-19 pandemic?". The possible responses participants can choose from also allows them to indicate their relation of possible loss (i.e., "Yes, someone who I would consider immediate family, or a close friend passed due to COVID-19" and "No, I have not experienced loss due to COVID-19"). Participants will also have the option to answer "Prefer not to say" due to the highly emotional and personal nature of this question.

Procedure

This study is in the process of receiving IRB board approval at Bowling Green State University. First, participants will gain entrance into the study from an online link that they can access through Sona Student Research Scheduler. This link will also detail the procedure of the study. Participants are initially presented with informed consent and will be prohibited from continuing with the study if they did not provide their consent. The informed consent reminds participants that they have the option to stop and leave the study at any time. Next, participants will be asked a series of demographic questions (i.e., gender identity, race, and age) and moderator questions (i.e., political affiliation). Participants will then complete the TEQ to determine their trait empathy. Random assignment is used to assign participants to either the video interview or statistical condition which they will view for three minutes. After exposure to their assigned condition, participants will complete the modified IRI along with the attention checks for their condition. The final moderating question will be at the end of the study which is determining participants' personal loss to COVID-19.

Multiple attention checks were incorporated throughout the survey to ensure data collection reflected the participants' authentic responses. Modifications were added to the TEQ

and IRI to include these attention checks (i.e., "I felt very involved with the media I was exposed to. Regardless of your answer, please select "2"").

The study will be followed up with mental health resources available for the participant's use due to the sensitive nature of the study. Alternate opportunities to earn SONA credits will also be provided to uninterested or ineligible participants. Finally, the participants who successfully complete the study will earn 1.5 SONA credits.

Results

Exposure and Situational Empathy

The participants exposed to the statistical condition had lower situational empathy scores on average (M= 31.4, SD= 5.58) compared to those exposed to the personal story condition (M= 33.65, SD= 5.83, t(66)=-1.56, p=0.124; see Figure B2). Statistical significance was not found in our participant group.

Multiple Linear Regressions

Political Affiliation

Political affiliation did not significantly moderate the relationship between the experimental condition and situational empathy, Lib/Dem: (b = .32, p = .71); Con/Reb: (b = -.47, p = .59). From the overall model assessing covariates, higher levels of Liberal/Democratic political identity ($b = .46$, $t = 3.03$, $p = .004$) were significantly and uniquely associated with both higher trait and situational empathy (see Table B1). Higher levels of Liberal/Democratic political identity ($b = .31$, $t = 6.45$, $p = .008$) were also significantly and uniquely associated with higher situational empathy (see Table C2). Conservative/Republican political affiliation were not

significantly or uniquely associated with levels of both trait and situational empathy ($p > .05$; see Tables B1 and C2).

Personal COVID-19 Loss

Higher closeness of personal COVID-19 loss did not significantly moderate the relationship between the experimental condition and situational empathy ($p > .05$; see Tables B1 and C2).

Discussion

In the present study, we explored relationships between COVID-19 mortality information exposure (I.e., statistical sheet versus personal loss video) and situational empathy, along with exploring political affiliation as a possible moderator. Medium of exposure to COVID-19 mortality information had no significant effect on levels of situational empathy. For exposure and situational empathy, our findings did not completely align with our hypothesis because statistical significance was not found. Although, the pattern of results suggests that the personal video exposure may garner statistical significance with a larger, more diverse participant group. The mean situational empathy scores of those exposed to the personal story were greater than those exposed to the statistics. The pattern of results does map onto previous research identifying how narrative formatted information elicits more of an empathic response compared to non-narrative formatted information.

Multiple linear regressions found that personal loss due to COVID-19 was not significantly associated with situational empathy, regardless of experimental condition. We hypothesized that previous loss due to COVID-19 would moderate the relationship between exposure and situational empathy, but the data did not support this hypothesis. It was

hypothesized that political affiliation would moderate the relationship between exposure and situational empathy which it significantly did not. Although, it was found that Liberal/Democratic political affiliation were closely associated with both higher trait and situational empathy scores.

Strengths, Limitations, and Future Direction

The strengths of this study include how our research builds upon limited existing COVID-19 and empathy research. It can further our understanding of how individual health behaviors (I.e., vaccination status, mask usage, social distancing) and political affiliation are associated with behaviors, perceptions, and empathetic responses surrounding COVID-19. Overall, this study contributes to the global discussion of the long-term effects of the COVID-19 pandemic. Going into building the study, we performed an extensive literature review for previous research related, or associated with situational empathy, COVID-19 empathy, and political affiliation in relation to health behaviors and empathy. Thorough planning of how research and analysis should be conducted was heavily discussed with an understanding of our initial project limitations. It was important to keep in mind what we would change if we had the resources or time (i.e, addition of a psychophysiological method to strengthen overall validity).

Limitations that we were aware of at the start included a small sample size of all psychology course students. This led to an underrepresentation of POC, diverse gender identities, unvaccinated people, non-students, Conservative/Republican individuals, and people who have experienced loss due to COVID-19. Due to the nature of our online study, we also should account for social desirability bias which may have influenced data because participants may have reported higher empathy levels than what they had truly experienced. A limitation we did not account for were attrition rates occurring disproportionately within the statistical exposure

group leading to unequal experimental groups. Possible catalysts for the higher dropout rate within the statistical exposure group may be due to the online nature of the study and failure to read the section header that stated participants could not advance until three minutes had passed.

Future directions of the study would include minimizing some of the limitations described so having a larger, more diverse participant group, and correcting the high drop-off rate for the statistical exposure. This could be achieved by administering an in-person study which would also open methods to include psychophysiological measures. Having an in-person study could also decrease social desirability because participants would be in the room with a test proctor. A larger future direction for the study would be to include a psychophysiological measure (I.e., electroencephalogram or EEG). This measure was included in the research proposal but due to resources and time, we were unable to utilize EEG. The addition of this measure would have bolstered the overall validity of our results, especially external validity.

Conclusions

Understanding relationships between the medium of exposure to COVID-19 mortality information, trait and situational empathy, and political affiliation provides a basis for conceptualizing why the U.S. reacted and acted in certain ways during the peak of the pandemic. The present study suggests that Liberal/Democratic identity, but not Conservative/Republican identity, was significantly and uniquely related to higher trait and situational empathy. Mean situational empathy scores for participants exposed to the personal story indicate that with future replication, a significant and unique association between situational empathy and the personal story condition may be found.

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Appendix A

## COVID-19 Mortality Statistics Sheet

Figure A1.
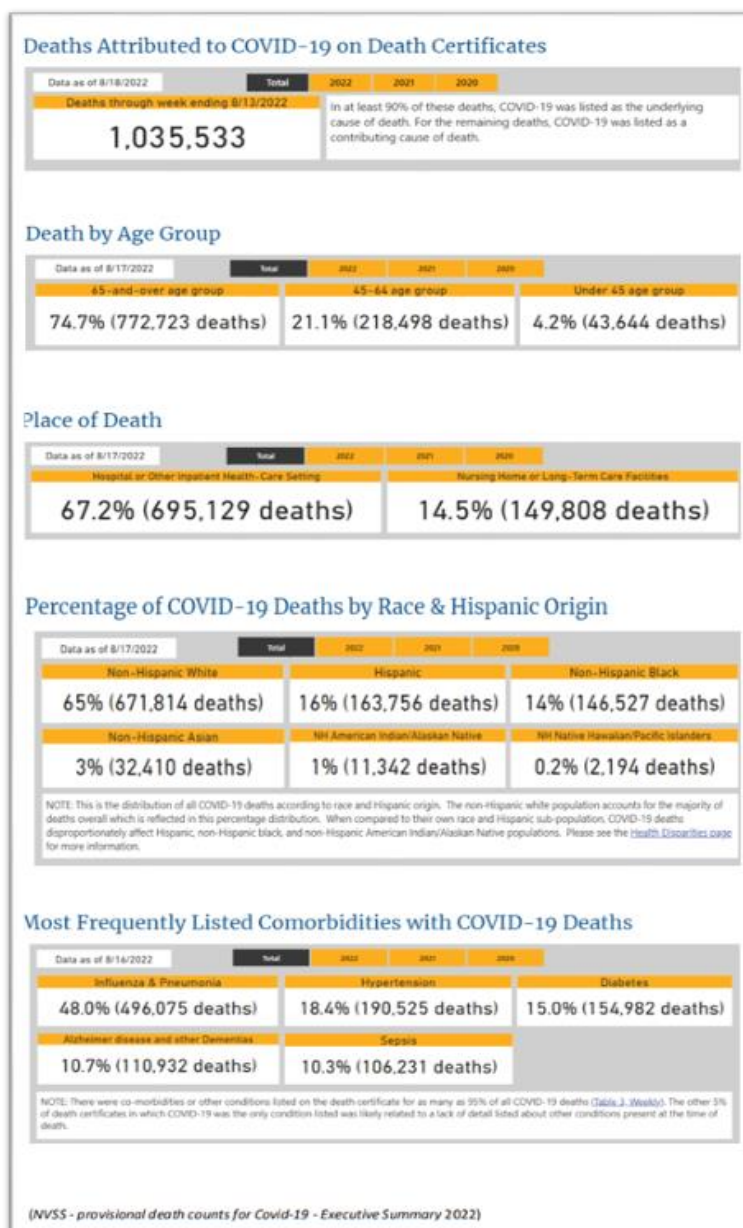
Note. The image was created by the Centers for Disease Control (CDC). From "NVSS-Provisional Death Counts for Covid-19 - Executive Summary." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 16 May 2022, https://www.cdc.gov/nchs/covid19/mortality-overview.htm.

<center>**Appendix B**

Results</center>

Figure B2. *Average situational empathy scores of statistical exposure group and personal story exposure group. Error bards represent 95% confidence interval based on the standard error of the mean.*
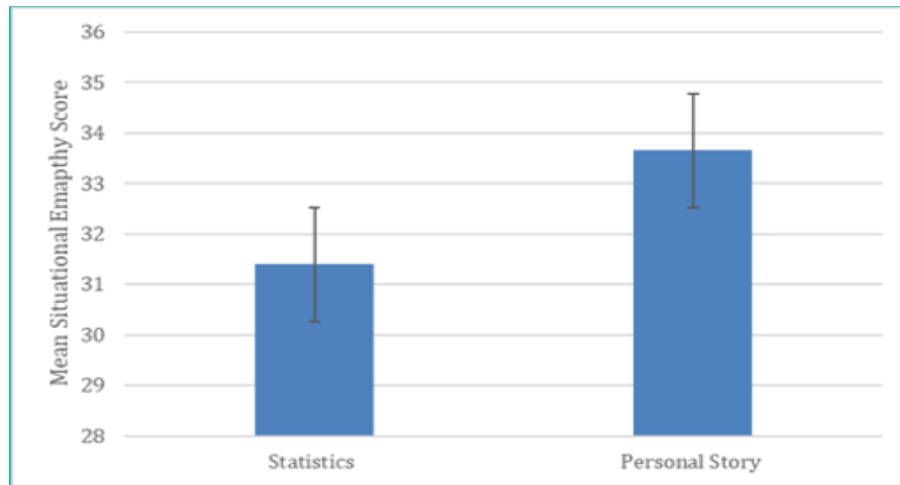
Table B1. *Multiple linear regressions examining trait empathy.*

Model	B	SE B	β	t	p
#1 (Constant)	31.44	3.73		8.43	<.001*
Gender	.86	1.98	.06	.44	.67
#2 (Constant)	25.59	4.97		5.15	<.001*
Gender	-1.52	1.78	-.10	-.86	.40
Exposure	2.92	1.29	.25	2.27	.03
Personal Loss	.65	.72	-.10	.90	.37
Lib/Dem	1.67	.55	.46	3.03	.04*
Con/Reb	-.23	.52	-.07	-.45	.65

Note. N = 68. Gender was a covariate (0=Male, 1=Female). *Denotes significance *p*<.05.

Appendix C

Continued results

Table C2. *Multiple linear regressions examining situational empathy.*

Model	B	SE B	β	t	p
#1 (Constant)	46.76	2.61		17.92	<.001*
Gender	1.24	1.39	.11	.89	.38
#2 (Constant)	43.22	3.73		11.58	<.001*
Gender	-.21	1.33	-.02	-.16	.88
Exposure	1.45	.97	.17	1.5	.14
Personal Loss	-.24	.54	-.05	-.44	.66
Lib/Dem	1.13	.41	.44	2.73	.01*
Con/Reb	.03	.39	.01	.087	.93

Note. N = 68. Gender was a covariate (0=Male, 1=Female). *Denotes significance *p*<.05