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## **The Interplay Between Personal Responsibility and Social Determinants of Health on Attributions Related to COVID-19 Infections**

Emma Cox  
*The University of Southern Mississippi*

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The Interplay Between Personal Responsibility and Social Determinants of Health on  
Attributions Related to COVID-19 Infections

by

Emma Cox

A Thesis  
Submitted to the Honors College of  
The University of Southern Mississippi  
in Partial Fulfillment  
of Honors Requirements

May 2022



Approved by:

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Kathryn Anthony, Ph.D., Associate Professor,  
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Click or tap here to enter text., Choose an item.,  
Thesis Co-Advisor,  
School of Choose an item.

A handwritten signature in black ink that reads "Edgar Simpson". The signature is written in a cursive style with a large, prominent 'E' and 'S'.

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Edgar Simpson, Ph.D., Director,  
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## ABSTRACT

While health campaigns often convey that health-related behaviors are the primary causes of preventable illnesses, they ignore the strong relationship between social determinants of health (SDH) and health outcomes (Braveman & Gottlieb, 2014). Ignoring non-behavioral factors in health communication poses both practical and ethical concerns for people with negative health outcomes, as health is linked to many “uncontrollable” factors, including income, education, and employment (Guttman & Ressler, 2001). Several social and environmental factors are linked to covid-19 exposure risk, including neighborhood environment, housing conditions, and occupation (CDC, 2022). Given the associations between causal beliefs about health and policy support, experts encourage health communicators to emphasize SDH in public health address (Barry et al., 2012). Several studies demonstrate that emphasizing social factors of illnesses, such as type-II diabetes or obesity, can increase societal causal attributions for health, and in turn, health-related policy support (Gollust et al., 2009; Niederdeppe et al., 2014; Niederdeppe et al., 2011). Given the need for messages that provide understanding of the complex determination of covid-19 risks and outcomes, this study examines how emphasis on socio-economic factors relating to covid impact causal attributions of covid and covid-related policy support.

***Keywords: message design, health communication, attribution theory, social determinants of health, narrative persuasion, framing,***

## **DEDICATION**

This thesis is dedicated to my parents, Christian and Katie, and to my stepmom, Jessica.

## **ACKNOWLEDGMENTS**

I want to acknowledge my advisor, Kathryn Anthony, who introduced me to the discipline of Communication Studies and offered strong guidance throughout the completion of this thesis.

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## **LIST OF ABBREVIATIONS**

SDH	Social Determinants of Health
CDC	Centers for Disease Control and Prevention
ANOVA	Analysis of Variance

# **CHAPTER I: Background & Literature Review**

## **Introduction**

In the beginning of 2020, an ominous flu-like virus known as COVID-19 began to spread across countries, causing lockdowns worldwide. As the virus spread to the pandemic scale, the Center for Disease Control (CDC) introduced a set of behaviors aimed at slowing the proliferation of the virus, though not quickly enough to stop the climbing death toll. By February 2022, the CDC counted 945,688 within the US alone (2021). As the pandemic progressed, the CDC and government authorities provide behavioral standards to minimize the damage of COVID transmission, including wearing a mask in indoor settings, washing hands often, and, more recently, getting vaccinated (CDC, 2022). CDC covid-19 campaign messages urge the public to “Do [Their] Part” by staying up to date on vaccinations and taking a covid-test after known exposures or the appearance of symptoms (CDC, 2019). In urging these messages, the CDC and other health promotional organizations assign responsibility for preventing covid-19 to individuals.

While health campaigns often reflect that health-related behaviors are the primary causes of preventable illnesses, they ignore the strong relationship between social determinants of health (SDH) and health outcomes (Braveman & Gottlieb, 2014). Ignoring non-behavioral factors in health communication poses both practical and ethical concerns for people with negative health outcomes, as health is linked to many “uncontrollable” factors, including income, education, and employment (Guttman & Ressler, 2001). Several social and environmental factors are linked to covid-19 exposure

risk, including neighborhood environment, housing conditions, and occupation (CDC, 2022).

Despite these empirically supported associations between social circumstances and health outcomes, the media largely frames health phenomena, like obesity, as a matter of individual responsibility (Kim & Willis, 2007). Health campaigns perpetuate the message, urging against risk factors like overeating, sedentary living, and having unprotected sex (Guttman & Ressler, 2001). Accordingly, the public persistently attributes responsibility to individuals rather than to broader social inequalities (Rogers et al., 2014). These perceptions about causal responsibility strongly predict beliefs about societal-level institutions intervening with social problems such as poverty, unemployment, and healthcare (Iyengar 1996; Weiner, 1993). People who attribute causal responsibility to sick individuals rather than to social inequalities often hold low support for public health policy, proposing instead that health improvement must come through individual behavior change (Gollust & Lynch, 2010).

Given the associations between causal beliefs about health and policy support, experts encourage health communicators to emphasize SDH in public health address (Barry et al., 2012). Several studies demonstrate that emphasizing social factors of illnesses, such as type-II diabetes or obesity, can increase societal causal attributions for health, and in turn, health-related policy support (Gollust et al., 2009; Niederdeppe et al., 2014; Niederdeppe et al., 2011). While several covid-19 vaccines became available in the US by 2021, only 65 percent of the population received 2 doses of a vaccine and less than half of the population received both doses and a booster shot (CDC, 2022). Further, the

public remains polarized on covid-related policy, including vaccine mandates (Baum et al., 2021).

Message design studies on other health phenomena indicate that attribution of responsibility to socio-economic factors, rather than individual choice, predicts support for public health policies addressing health on a societal level. Further, one study demonstrates that attribution theory's framework holds implications for evaluating others' behavior regarding covid-preventative behaviors. However, no current studies examine the effects of emphasizing social determinants of covid-19 on causal attributions and covid-related policy support. Given the need for messages that provide understanding of the complex determination of covid-19 risks and outcomes, this study examines how emphasis on socio-economic factors relating to covid impact causal attributions of covid and covid-related policy support.

## **Literature Review**

### ***Social Determinants of Health***

In recent decades, social scientific research has increasingly focused on social determinants of health (SDH)—factors beyond lifestyle factors and access to healthcare— as significant predictors of health outcomes (Braveman & Gottlieb, 2014). While many illnesses are attributable to behavioral factors, health-related behaviors are highly interconnected with social factors (Stringhini et al., 2010). For instance, Jemal et al., (2001) find that potentially avoidable factors associated with low educational attainment account for almost half of all deaths among working-age adults in the US; while not confined to any racial group, this effect is heightened among black Americans. Similarly, income is shown to cause health inequalities which begin in early childhood

and widen through adolescence and into adulthood (Zwieten et al., 2018). Other social factors which impact health outcomes are rank in occupational hierarchy and neighborhood features such as walkability and accessibility of healthy foods (Braveman & Gottlieb, 2014).

Despite the wealth of research linking socio-economic factors to health outcomes, appeals to personal responsibility dominate health campaigns. While sometimes merely implied, these appeals inherently assume causal connections between individual deeds and health outcomes (Guttman & Ressler, 2001). Often benevolently aimed at improving people's health behaviors, these health campaigns ignore the significant impact of social factors on health outcomes.

For example, Australia's LiveLighter campaign praises individual choice against buying dinner from a fast-food chain, while ignoring that eating fast food may be the most reasonable choice for individuals who live in a "food desert," areas where healthy, affordable food may be unavailable (Couch et al., 2017). HIV-prevention campaigns urge audiences to choose to wear protection, failing to acknowledge that women in abusive situations may risk physical or emotional abuse when discussing condom use (Wingood & DiClemente, 1997). Covid-19 campaigns assign moral responsibility for covid-prevention, urging that people should test for covid-19 when experiencing symptoms or after known exposure to protect their loved ones; similarly to the other campaigns, these messages do not recognize barriers to accessing testing centers, such as lack of transportation or paid-time off (CDC, 2022).

Reflecting health campaigns' emphasis on health-related behavior, people persistently rank personal behaviors and healthcare access as the strongest determinants

of health (Robert & Booske, 2011). This is problematic, not only because it reflects a widespread deficit in health literacy, but also because of the implications it holds for policy support and interpersonal evaluations. Causal beliefs about health and illness promote anger, peer rejection, and refusal to display helping behaviors (Weiner, 1993). Further, these causal beliefs result in stigmatization of illnesses with high perceived personal responsibility, such as HIV/AIDS, drug addiction, and obesity (Weiner et al., 1988). Individual responsibility attribution also results in low levels of support for policies intervening with health on a societal level, such as government health insurance expansion (Niederdeppe et al., 2014; Lundell et al., 2013; Gollust & Lynch, 2010). Instead, the public proposes higher insurance premiums, deductibles, or copayments for those with unhealthy lifestyle factors, reflecting the oversimplified causal assumption that poor public health is solely rooted in poor public behavior (Steinbrook, 2006).

In May 2006, the government of West Virginia realized this individual-driven policy by modifying the state's Medicaid system (Steinbrook, 2006). The state required residents to sign a Medicaid Member Agreement to access the "enhanced" plan which included many indispensable services, including diabetes care, cardiac rehabilitation, and mental health services—none of which were included in the basic plan. Access to these essential services was contingent on members' success at performing four behaviors: keeping medical appointments, receiving screenings, taking medications, and following health improvement plans (Steinbrook, 2006). Violations of the agreement could result in members being deferred to the reduced "basic" plan. By implementing this policy, West Virginia clearly imposed personal responsibility for health while assuming causal connections between personal behaviors and health outcomes.



However, given the enormous, empirically supported role of socio-economic factors in health outcomes, policies addressing health on a mere individual level are not likely to lessen widespread health disparities. Importantly, West Virginia Medicaid members with the most to gain from enhanced services are those with the most obstacles to earning benefits, including language barriers, limited transportation, or psychiatric illness (Steinbrook, 2006). Others argue that the policy imposes standards of responsibility that are unreasonably difficult for particularly vulnerable populations (Bishop & Brodkey, 2006; Schwartz, 2009). Beyond the moral shortcomings of the policy, West Virginia's modified Medicaid also resulted in increased economic burdens for the state (Friesen, 2018). Reflecting the difficulties of obtaining enhanced benefits, only 14% of members were in good standing with the Member Agreement by 2009 (Gurley-Calvez et al., 2012). Those who remained on the basic plan increased primary-care treatable emergency room visits by 7% (Gurley-Calvez et al., 2012), resulting in higher healthcare costs for the state and demonstrating that public health issues must be addressed on a societal rather than individual level.

### ***Attribution Theory in Health Communication***

Attributing responsibility for health to individuals results in both ethical and economic pitfalls. Assuming personal culpability for health problems is a form of victim blaming—"locating the causes of social problems within the individual who, in fact, is the one suffering from them," (Guttman & Ressler, 2001: 122). Further, when incorporated into health policy, this assumption worsens conditions for the already vulnerable and heightens healthcare costs overall (Friesen, 2018). Thus, policies aimed at ameliorating health disparities must address health as a social issue and not an individual

one. Eliciting support for such policies requires health communicators to combat widespread lay perceptions that health is largely determined by individual behaviors.

*Societal Cause Attribution & Policy Support* Theories of attribution offer guidance for strategic communication efforts to educate the public about SDH, and in turn, garner support for policy interventions to improve public health (Rogers et al., 2014; Niederdeppe et al., 2008; Corrigan et al., 2003). Heider's (1958) attribution theory poses that people judge others' behaviors as being either internally or externally caused. Internal causal attributions are perceptions that a certain outcome is related to personal characteristics, such as laziness or lack of motivation, whereas external causal attributions are perceptions that an outcome is caused by contextual factors, such as being in an economically disadvantaged environment. Accordingly, people perceived as agents of causation for social issues, such as poverty and racial inequality are evaluated negatively, eliciting anger and low levels of empathy (Iyengar, 1989).

Weiner (1993) extends attribution theory to consider controllability as a mediating factor for causal perceptions and subsequent emotional responses. Whether a person's illness cause is perceived as controllable determines people's levels of liking, pity, and intentions to help, resulting in negative evaluations of people afflicted with HIV/AIDS, drug addiction, and obesity (Weiner et al., 1988). However, when people instead attribute causal responsibility to society, they think more favorably of those harmed by social inequalities such as impoverished people and racial minorities.

A body of literature supports that emphasizing SDH in campaign messages can increase societal cause attributions, and subsequently, health-related policy support (Gollust et al., 2009; Golust & Lynch, 2010; Niederdeppe et al., 2011; Robert & Booske,

2011; Barry et al., 2013; Niederdeppe et al., 2014). Even in the face of health-risk behaviors, emphasizing social and structural barriers causes societal responsibility attribution, and, in turn, support for societal-level policy intervention (Niederdeppe et al., 2014). However, previous research suggests that communicators should be wary of entirely ignoring individual responsibility in health messages, due to the risk of threatening ideologically linked predispositions against policy action (Niederdeppe et al., 2015; Gollust & Capella, 2014). While individual responsibility for health is a prominent theme across ideological groups (Robert & Booske, 2011), liberals (and moderates) are more amicable towards social and economic explanations for poor health outcomes (Niederdeppe et al., 2014). Accordingly, they are more likely to view addressing problems like childhood obesity as a “joint responsibility” for everyone in a society (Barry et al., 2012) and favor solutions such as expanding government role in financing health insurance (Gollust & Lych, 2011; Niederdeppe et al., 2011).

The opposite is typically true for conservatives; for instance, one study demonstrates that messages emphasizing SDH trigger negative reactions among Republicans (Gollust et al., 2009), who reject public health interventions and instead, propose that individuals obtain insurance from the private market (Lynch & Gollust, 2010). Importantly, individualistic determinism is a deeply held value of conservatives (Feldman, 1988), which holds implications for the way they react to messaging (Niederdeppe et al., 2011). While another study demonstrates that no acknowledgement of individual responsibility produced obesity-related policy support among conservatives, and not liberals, (Niederdeppe et al., 2014), other studies generally support that health campaigns should acknowledge individual behaviors in messages emphasizing SDH, as

people across ideological lines perceive high importance of individual responsibility for health (Niederdeppe et al., 2015; Lundell et al., 2013; Robert & Booske, 2011).

### ***Narrative Persuasion***

Previous studies suggest that narrative message design can garner support for health policies (Niederdeppe et al., 2015; Niederdeppe et al., 2014; Niederdeppe et al., 2011). Busselle & Bilanzic, 2008 outline several qualities of narrative which make them particularly promising in persuasive research, including that they cause audiences to identify and empathize with characters while constructing meaning. Further, narratives depict chains of events that cause audiences to alter their causal attributions (Dahlstrom, 2010).

Niederdeppe et al., 2011 compare the persuasive effects of narrative and nonnarrative messages. The narrative condition contains a story of a person on his weight loss journey. The story acknowledges the protagonist's personal (internal) choices about diet and exercise, but emphasized external factors, including high costs and lack of access to healthy foods, wide availability of unhealthy foods, stress related to a low-income job, and a lack of safe, affordable places to exercise. The nonnarrative condition provides a page-long summary of evidence that emphasizes the same internal and external factors as the personal story, but instead lists the factors as bullets. As suggested by the literature, Niederdeppe et al., 2011 demonstrate that the narrative condition was more successful at eliciting beliefs that society is responsible for addressing obesity, but only for liberals, reflecting the polarizing nature of questions about attribution of responsibility for health. In another study, Churchill et al., 2021 manipulated the content of different narratives (rather than the message form), emphasizing either privilege of the rich or plight of the

poor alongside varying combinations of individual and societal responsibility attribution. In keeping with the reviewed attribution literature, Churchill et al, 2021 confirm that the most effective narrative acknowledged both individual and societal causes for bad health, while emphasizing hardships experiences by the poor.

In another study, Niederdeppe et al., 2014 examine persuasive effects, by manipulating the degree of responsibility taken by the story's protagonist, who faces social and economic barriers to losing weight. While emphasizing similar external factors as Niederdeppe et al., 2011, the story conveys a protagonist who takes a high, moderate, or low sense of personal responsibility on her weight loss journey. While the high personal responsibility condition emphasizes adherence to diet and exercise, the low responsibility condition does not indicate that the protagonist takes any responsibility for her weight loss. The degree of personal responsibility depicted shaped societal-cause attributions among participants, regardless of political leaning. Additionally, the low and moderate responsibility conditions improved obesity-related policy support for conservatives that was comparable to the level of support by liberals across experimental conditions.

Yao & Sigel (2020) apply similar conceptual framework to the covid-19 pandemic context, providing vignettes of a subway passenger exhibiting varying degrees of controllability and intentionality in causing 23 other passengers' infections. As in other studies, circumstantial control and intentions increased perceived responsibility and anger towards the agent, while decreasing levels of sympathy. Yao & Sigel (2020) demonstrate that attribution theory's framework holds implications for evaluating others in the context of the pandemic, however, they do not introduce socio-economic barriers to preventing

covid-19. Further, they do not measure covid-preventative policy support, a variable of persisting interest amidst controversy over medical liberty, bodily autonomy, and talks of universal vaccine mandates.

The current study employs similar experimental design to Niederdeppe et al., 2014, manipulating levels of personal responsibility for health and emphasizing societal barriers to health which are independent of individual behavior. However, while Niederdeppe et al., 2014 measure degrees of responsibility for obesity and weight loss, the current study will consider levels of responsibility for covid-19 transmission and socio-economic barriers to effective prevention.

### ***Pandemic Considerations***

The covid-19 pandemic introduces a unique set of circumstances that may disrupt perception patterns of responsibility for causing health inequalities, responsibility for improving health inequalities, and political ideological associations with these perceptions. Like the discussed illnesses (AIDS, heart disease, type-2 diabetes), covid-19 has behavioral associations that may lead to perceptions of individual control. For instance, the Center for Disease Control (CDC) provides a set of behaviors aimed at slowing the proliferation of the virus, including staying up to date on vaccinations and testing and quarantining after known exposure (CDC, 2022).

However, like other discussed illnesses, covid-19 outcomes are associated with socio-economic factors that impact risk of exposure and severity after infection. For instance, neighborhood and physical environment, housing, and occupation impact covid-risk factors, such as ability to quarantine and rate of exposure (CDC, 2022). Additionally, structural disparities in access to medical insurance, wealth, and income volatility

exacerbate disparities in covid-19 outcomes for black Americans, American Indians, and people who live in low-income households, compared to their white, higher-income counterparts (Raifman & Raifman, 2020). Black Americans are also more likely to be vaccine hesitant compared to other ethnic groups, in some cases citing the country's history of racism in medical research and medical care as reasons for their vaccine hesitancy (Laurencin, 2021; Mondal et al., 2021).

The political climate of the covid-19 pandemic perpetuates existing patterns regarding ideological leaning and health-related policy support. For instance, liberal political leaning is strongly associated with positive attitudes about vaccines and with vaccination behavior (Fridman et al., 2021). Further, Democrats are twice as likely as Republicans to support universal vaccine mandates, with the approval rates being 86% and 43% respectively (Baum et al., 2021). Similarly, where 83% of Democrats support vaccine mandates in public schools, only 41% of Republicans report support (Baum et al., 2021). However, while previous research indicates that Democrats, or liberal-leaning people are more likely to display empathy and pro-social behaviors towards ill individuals, the same is not true regarding Democrats' evaluations of non-vaccinated individuals (Lazer et al., 2021). Compared to Independents and Republicans, Democrats report the least favorable feelings towards those who are not vaccinated. Reflecting partisan feelings depending on vaccination status, Republicans feel colder towards vaccinated individuals (Lazer et al., 2021).

Thus, in this specific health context, political ideology may have anomalous effects on previously studied variables examined in obesity studies: health-related policy

support, causal attributions of health phenomena, empathy, and anger. Given the reviewed literature, the following hypotheses are formed:

H1: Messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield higher perceptions of empathy than messages of low personal responsibility.

H2: Messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield lower perceptions of anger than messages of low personal responsibility.

H3: Messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield higher perceptions of perceived similarity with the narrative than messages of low personal responsibility.

H4: Messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield higher perceptions of individual causal attribution for the subject of the narrative than messages of low personal responsibility.

H5: Messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield higher support for COVID-19-preventative policies than messages of low personal responsibility.



## CHAPTER II: METHODS

This study was modeled after Niederdeppe et al., 2014, who examined similar research questions regarding questions of responsibility for obesity and obesity-related policy support. The project proposal was reviewed and approved by the Institutional Review Board (IRB) of the author's university.

### **Procedure and Stimuli**

The author recruited participants using the crowdsourcing tool Amazon Mechanical Turk (MTurk). Participants were offered a \$0.25 incentive to complete the survey. Given that the survey was written in English, inclusion criteria for participation specified that participants must be of 18 years of age and have completed a high-school diploma or equivalent in the United States. As required by IRB standard procedures, participants were given a standard online consent form, informing them of the study's purpose and their reserved right to exit the survey at any time during participation. If they consented to participate, respondents were asked to read a short narrative and complete a forty-nine question-survey housed in survey tool Qualtrics. The entire procedure took about ten-minutes.

Amazon MTurk tracks the number of people who open the survey link regardless of whether they complete—or begin—taking the survey. Thus, while MTurk's number of respondents was 1023, the number of completed surveys was significantly lower. The author suspects that this is because the initial prompt is a page-long message, that some participants were not willing to read for the low incentive of \$0.25. An initial screening of surveys filtered out 226, leaving a remaining sample of 757. The greatest weakness of the sample is that it was majority white, as 84.3 percent of respondents reported being

white or Caucasian, 9.2 as black or African American, 1.4 as American Indian or Alaska Native, 3.1 as Asian, and 2.1 percent as some other ethnicity.

***Condition 1: High Personal Responsibility (HPR)***

Participants assigned to the HPR condition were asked to read a one-page story about a woman named Melissa who works as a custodian at a hospital in a suburban town. As her organization provides guidelines to prevent the spread of covid-19, she faces several barriers to protect herself and others, including ones listed on the CDC's Health Equity page. The story demonstrated Melissa's strong sense of personal responsibility for preventing covid-19, but also emphasized societal barriers that lead to disparities in covid-19 risk and outcomes, including being exposed at higher rates in her essential work setting, receiving no paid time off, and living in a multi-generational household. In addition to the societal barriers, the story emphasizes covid-related policy interventions, including mask mandates in healthcare settings and government financial support.

Despite these challenges, Melissa takes personal responsibility for her health, exhibiting clear personal drive and perseverance. She quarantines for the recommended period upon each known exposure, saving her government stimulus checks so that she can pay her bills. Additionally, she makes appointments as soon as covid-19 vaccines are made available to frontline workers, even though she must sacrifice precious hourly wages. Still, Melissa is infected with covid-19 and experiences significant health complications, including covid-related pneumonia.

### ***Condition 2: Moderate Personal Responsibility (MPR)***

The MPR condition followed a similar structure, first emphasizing societal barriers to covid-19 prevention, and then depicting Melissa's personal behaviors. Like the HPR condition, Melissa quarantines after her first known exposure to covid-19; after her second exposure, however, she decides that regular quarantine is not feasible given the financial consequences. Rather than saving the money, she uses her stimulus check to take a much-needed weekend off work. While Melissa gets her first vaccine dose on a day off, she is unable to make time for her second dose and booster due to her work schedule. As in the HPR condition, Melissa is infected with covid-19 and experiences significant health complications, including covid-related pneumonia.

### ***Condition 3: Low Personal Responsibility (LPR)***

The LPR condition followed the same structure as HPR and MPR, emphasizing the same obstacles, but clearly demonstrating that Melissa takes no personal responsibility for protecting herself from covid-19. She avoids quarantining, even when notified by co-workers of confirmed exposure. While she justifies this to herself by noting her lack of paid time off, she uses her stimulus checks to go out in large group settings, displaying no covid-prevention behaviors. Finally, she refuses vaccination, though her hospital mandates that all employees are fully vaccinated. Like the other two conditions, the LPR Melissa is infected with covid-19 and experiences significant health complications, including covid-related pneumonia.

### ***Control***

Though similar in length to the other conditions, the control condition makes no reference to hospitals, covid-19, or covid-prevention behaviors. Instead, the condition is a

story of a waitress considering advancing her career. Given that the items measuring individual causal attributions assumed a negative outcome, the waitress fails to advance her career to a sales position.

## **Measures**

### ***Individual Causal Attributions***

Mantler et al., 2003 provide scales for judging a specific agent as responsible, using the constructs of controllability, responsibility, and blame, composed of four items each. We compiled these three distinct scales into a single measure for individual causal attribution, consisting of twelve randomly ordered statements on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. These statements measure individual causal attribution, as conceived within attribution theory's framework (e.g., "The subject's illness was under her personal control"; "The subject could not have prevented her illness"). Respondents assigned to the control group were asked the same question, with the word "illness" exchanged for "condition" and "situation". The randomly ordered items were averaged into a scale ( $\alpha=.826$ )

### ***Empathy toward the character***

6 items (on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree) were selected from Campbell & Babrow (2004) to measure empathy toward the narrative's character (e.g., "When I was reading the message, I felt sad for the subject"). This shortened version of this scale was used previously in Niederdeppe et al. (2015). The randomly ordered items were averaged into a scale ( $\alpha=.75$ )

### ***Perceived Similarity***

6 items (on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree) taken from Niederdeppe et al. (2015) were used to measure perceived similarity to the story's character and averaged into a scale (e.g., "The subject has values that are like the values I would ideally wish to practice"). A similar measure was used in Niederdeppe et al., 2014, adapted from Campbell & Babrow, 2004. The randomly ordered items were averaged into a scale ( $\alpha=.929$ )

### ***Anger toward the character***

Respondents were asked to report their level of anger toward the subject on a 5-point Likert scale ranging from (1) strongly disagree to (5) strongly agree.

### ***Covid-19-related policy support***

A main variable of interest within the health attribution literature is health-related policy support. Similar studies (Niederdeppe et al., 2014; Gollust et al., 2009) measure support for nonmedical health policies aimed at ameliorating problems of obesity and type-II diabetes. Given that this study considers causal attributions related to the covid-19 pandemic, we measure support for policies aimed at preventing the spread of covid-19. While we compiled the nine-item scale using a comprehensive list of state-level legislative interventions with covid-19 (Fernandes et al., 2021), the list is not exhaustive. Examples of policy statements included in the measure include: "I support vaccine mandates for healthcare workers"; "I support vaccine passport requirements for businesses and restaurants"; "I support masking policies on airplanes". Like the other measures, participants were asked to report sentiments on a 5-point Likert scale ranging

from (1) strongly disagree to (5) strongly agree. The randomly ordered items were averaged into a scale ( $\alpha=.935$ )

### ***Political Ideology***

Political ideology was measured using two items. The first item asked respondents what political party they most closely identify with: Democrat, Republican, Independent, or other. The next item asked respondents to report their political ideological position, ranging on a Likert-type scale from very liberal to very conservative.

## CHAPTER III: RESULTS

### *Distribution*

Participant recruitment through Amazon MTurk yielded evenly distributed participation across experimental conditions. Out of the 586 total participants, 24.1 percent (141 participants) completed the study in the HPR condition, 24.9 percent (146 participants) completed the study in the MPR condition, 25.3 (148 participants) completed the study in the LPR condition, and 25.8 percent (151 participants) completed the study in the control condition.

### *Hypotheses*

H1 stated that messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield higher perceptions of empathy than messages of low personal responsibility. The authors tested H1 using a one-way analysis of variance (ANOVA) with the Bonferroni post-hoc test to determine the differences in measures between groups. One-way ANOVAs demonstrate whether two measures' means are significantly different, while the Bonferroni post-hoc test eliminates the risk of a false relationship between groups. The results of this test can be found in Table 1. In support of H1, the HPR condition (listed in the Table as Message 1) elicited higher levels of empathy than the LPR (listed in the Table as Message 3) condition ( $F=10.55$ ,  $p < .001$ ). However, the difference between levels of empathy reported in the HPR condition, compared to the MPR condition (listed in the Table as Message 2) was not statistically significant. This is somewhat surprising, as there were clear behavioral differences between the character in the HPR and the MPR condition. However, as the authors

anticipated, there were significantly higher levels of empathy reported by participants in the MPR condition compared to the LPR condition. Given these findings, the authors confirm H1, rejecting the null hypothesis.

H2 stated that messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield lower perceptions of anger than messages of low personal responsibility. The authors tested H2 using the same statistical methods as for H1. The results of this test can be found in Table 2. In support of H2, the HPR condition yielded lower levels of anger than the LPR condition ( $F= 6.776, p < .001$ ). As was the case for H1, the difference between levels of anger reported in the HPR condition, compared to the MPR condition was not significant. However, as the authors anticipated, there were significantly lower levels of anger reported by respondents in the MPR condition compared to the LPR condition. Given these findings, the authors confirm H2, rejecting the null hypothesis.

H3 stated that Messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield higher perceptions of perceived similarity than messages of low personal responsibility. Again, the authors tested H3 using a one-way ANOVA, with a Bonferroni post-hoc test. The results of this test can be found in Table 3. In support of H3, the HPR condition yielded higher levels of perceived similarity than the LPR condition ( $F=12.983, p < .001$ ). This finding is not surprising, as the character in the HPR condition exhibited strong personal drive and responsibility for not only her own health, but the health of others. Additionally, participants in the HPR condition reported higher levels of perceived similarity than those in the MPR condition. This is the only case in which there is a significant interaction between the HPR and



MPR messages. This finding suggests that even slight transgressions regarding COVID-19 are socially undesirable. While the character in the MPR condition is likely the most realistic (flawed) version of a hospital worker, participants perceived themselves to be significantly more like the character who made no obvious mistakes. Finally, participants in the MPR condition reported higher levels of perceived similarity than those in the LPR condition. Given these findings, the authors confirm H3, rejecting the null hypothesis.

**Table 1**

*ANOVA & Bonferroni Post-hoc Test for Empathy*

(I) Message	(J) Message	(I-J) Mean Difference	Std. Error	Sig.
1	2	0.08934	0.10022	1
	3	0.51365*	0.09988	0
	4	0.28852*	0.09939	0.023
2	1	-0.08934	0.10022	1
	3	.42431*	0.0988	0
	4	0.19917	0.0983	0.259
3	1	-.51365*	0.09988	0
	2	-.42431*	0.0988	0
	4	-0.22513	0.09795	0.131
4	1	-.28852*	0.09939	0.023
	2	-0.19917	0.0983	0.259
	3	0.22513	0.09795	0.131

H4 stated that Messages highlighting high levels of personal responsibility concerning COVID-19 behaviors will yield lower perceptions of individual causal attribution than messages of low personal responsibility. Using the same methods, the authors confirmed H4, determining lower levels of individual causal attribution for respondents in the HPR condition compared to the LPR condition ( $F=26.396$ ,  $p < .001$ ). Given that the character displayed in the HPR and LPR conditions displayed the extremes of COVID-19 preventative behaviors, this was to be expected. Somewhat surprisingly, the mean difference in individual causal attribution between the HPR and MPR condition was not significant. This suggests that eliciting perceptions of causality requires more than slight transgressions of COVID-19 preventative behaviors. As was expected, there were also significantly lower levels of individual causal attribution reported between the MPR and LPR conditions. Given these findings, the authors confirm H4, rejecting the null hypothesis.

Regarding H5, analysis revealed no significant interaction between experimental condition and COVID-19 related policy support ( $F=.819$ ,  $p > .484$ ). Though our hypotheses were formed within attribution theory's framework, this finding is not surprising. Given the highly politicized (and polarized) climate of the COVID-19 pandemic, most people's perspectives on preventative policies are likely to be attached to core values and firm attitudes. Thus, the authors reject H5 in favor of the null hypothesis.

**Table 2***ANOVA & Bonferroni Post-hoc Test for Anger*

(I) Message	(J) Message	(I-J) Mean Difference	Std. Error	Sig.
1	2	-.148	.148	1.000
	3	-.584*	.147	.000
	4	-.458*	.146	.011
2	1	.148	.148	1.000
	3	-.436*	.146	.017
	4	-.310	.145	.197
3	1	.584*	.147	.000
	2	.436*	.146	.017
	4	.126	.145	1.000
4	1	.458*	.146	.011
	2	.310	.145	0.197
	3	-.126	.145	1.000

**Table 3***ANOVA & Bonferroni Post-hoc Test for Perceived Similarity*

(I) Message	(J) Message	(I-J) Mean Difference	Std. Error	Sig.
1	2	.40145*	.12014	.005
	3	.70057*	.11812	.000
	4	.19949	.11970	.560
2	1	-.40145*	.12014	.005
	3	.29912	.11649	.063
	4	-.201956	.11708	.511
3	1	-.70057*	.11812	.000
	2	-.29912	.11649	.063
	4	-.50108*	.11501	.000
4	1	-.19949	.11870	.560
	2	.20196	.11708	.511
	3	-.50108*	.11501	.000

**Table 4***ANOVA & Bonferroni Post-hoc Test for Individual Causal Attributions*

(I) Message	(J) Message	(I-J) Mean Difference	Std. Error	Sig.
1	2	-.12488	.07806	.661
	3	-.60434*	.07806	.000
	4	-.46337*	.07779	.000
2	1	.12488	.07806	.661
	3	-.47946*	.07750	.000
	4	-.33848	.07723	.000
3	1	.60434*	.07806	.000
	2	.47946*	.07750	.000
	4	.14098	.07723	.411
4	1	.44337*	.07779	.000
	2	.33848*	.07723	.000
	3	-.14098	.07723	.411

**Table 5***ANOVA & Bonferroni Post-hoc Test for COVID-19 Related Policy Support*

(I) Message	(J) Message	(I-J) Mean Difference	Std. Error	Sig.
1	2	.14756	.12110	1.000
	3	.13388	.12044	1.000
	4	.17363	.12022	.896
2	1	-.14756	.12110	1.000
	3	-.01368	.11900	1.000
	4	.02607	.11878	1.000
3	1	-.13388	.12044	1.000
	2	.01368	.11900	1.000
	4	.03975	.11811	1.000
4	1	-.17363	.12022	.896
	2	-.02607	.11878	1.000
	3	-.03975	.11811	1.000

## CHAPTER IV: DISCUSSION

While public health discourse focuses on individual behaviors as primary determinants of health, social scientists highlight the impact of socio-economic factors on health. Factors such as income, education, and employment hold dire implications for people's health outcomes, causing inequalities across socio-economic lines (Braveman & Gottlieb, 2014). Despite the wealth of empirical support for social determinants of health, public health communication largely presents an individualist conception of health.

When identifying causes of public health issues such as obesity, news media center on lifestyle factors, such as unhealthy eating and sedentary living (Kim & Willis, 2007).

Health campaigns also stress the importance of behavior, promoting rhetoric on personal responsibility spanning from prescribed medications to sexual behaviors (Guttman & Ressler, 2001). Accordingly, the public largely overestimates the role of personal behavior in health determination, rejecting that factors like housing quality, neighborhood safety, or ethnicity have very strong effects on health (Robert & Booske, 2011).

As with other health topics, public discourse on the COVID-19 pandemic assigns personal responsibility for preventing the spread of the virus. As is common in times of uncertainty, the beginning of the pandemic sparked a public tendency to blame others, promoting stigma and xenophobia among world travelers and those of Chinese descent (Barreneche, 2020; Chang et al., 2020). Later, the blame shifted toward those who did not follow recommended preventative measures, including those who criticized scientific discourse about COVID-19 (Labbé et al., 2022).

The present study confirmed that people perceive a high level of personal responsibility for COVID-19. While each narrative emphasized socio-structural barriers to COVID-prevention across experimental conditions, people felt significantly more empathetic towards the character who displayed exemplary behavior, compared to the character who failed to take recommended precautions. Accordingly, people felt significantly angrier towards the character who took a low level of personal responsibility for her health. These emotional responses reflect the framework of Weiner's attribution theory of perceived responsibility and social motivation. In his (1993) article, Weiner articulates that whether the cause of an outcome was controllable bears on whether a person should be judged as responsible. In turn, these causal beliefs promote anger, given responsibility judgements, or sympathy, given non-responsibility judgements. Accordingly, the present study demonstrated that a person's preventative behaviors determine social responses of anger and empathy, even in the face of socio-structural barriers diminishing one's ability to act preventatively. This is ethically concerning, considering that disparities in both exposure and outcome persist in the ongoing pandemic.

Ethicists and public health experts identify the moral problems with assuming individual responsibility for health in campaigns and public health address (Guttman & Ressler, 2001). As public health communication indicates personal responsibility for COVID-19 prevention, it simultaneously ignores the vast social inequalities causing disadvantaged groups to suffer disproportionately from the pandemic's effects. However, previous research demonstrates that by emphasizing SDH in health messages, communicators can transfer causal attributions from individuals to society. This study



demonstrated that the extent to which narratives depict personal responsibility for COVID-19 transmission impacts individual causal attributions. The extremes of personal responsibility—either taking all COVID-precautions or taking none— elicited polarized levels of perceived individual causal attributions. When people’s actions appear related to their outcomes, which were in this case COVID-19 health complications, they are held both causally responsible and morally culpable, receiving low levels of empathy and high levels of anger.

Given the literature on responsibility attribution for health, we anticipated that this reduction of individual responsibility for health would have improved COVID-19 related policy support, which intervened with prevention on a societal, rather than individual level. In previous message-design studies, researchers successfully elicited higher levels of obesity-related policy support by emphasizing social determinants of obesity while acknowledging personal responsibility (Niederdeppe et al., 2014; Gollust et al., 2009). However, for the present study, analysis revealed no significant interaction between individual causal attributions and COVID-19 related policy support. There are several characteristics of the COVID-19 pandemic and related policies which may explain why the outcome variable of policy-support did not reflect the literature.

First, throughout the pandemic, information surrounding COVID-19 transmission, treatment, and regulation has been politicized. Scholars partially attribute polarized conceptions of the pandemic to selective exposure to partisan news media (Gadarian et al., 2021). Additionally, partisan elites polarized COVID-19 from the start of the pandemic (Gadarian et al., 2021). Accordingly, public opinion on many aspects of the pandemic is polarized. Conservative political ideology is linked to several COVID-

related beliefs, including higher trust in government's ability to manage COVID-19 transmission, lower trust in scientists, and lower perceived risk of the virus (Kerr et al., 2021). Liberal political ideology predicts directly opposing beliefs: lower trust in government authorities' pandemic management, higher trust in scientific communities, and higher perceived risk of the virus. Additionally, political ideology is associated with people's likelihood of adopting COVID-preventative behaviors. Liberals are more likely to adopt COVID-preventative behaviors, including getting vaccinated, compared to their conservative counterparts (Fridman et al., 2021). Thus, Democrats are nearly twice as likely as Republicans to support universal mandates (Baum et al., 2021).

While public opinion on other health topics, such as obesity, also reflects broader ideological positions, COVID-19 is a particularly polarizing topic. For instance, while liberals are characteristically more amicable toward social policies addressing health inequities (Barry et al., 2012), message design research indicates that conservatives are somewhat malleable on health policy issues (Niederdeppe et al., 2014). However, the sorts of policies proposed in such research included policies of low controversy, including zoning laws that require residential areas to have sidewalks. Contrarily, the policies proposed for COVID-19 mitigation are much more controversial and potentially threatening to deeply held values, concepts of patient autonomy, and questions of medical liberty. Thus, while our findings regarding COVID-19 related policy support did not reflect the research on causal attributions and obesity-related policy support, they reflect the inherent difficulty in modifying firm attitudes.

## **Limitations**

There are several limitations of this study which should be considered. First, the sample of participants is disproportionately white, with an overwhelming 84.3% of respondents being white or Caucasian. Sample composition is an essential consideration for any quantitative research, and the lack of diversity in our responses must be noted as a limitation on generalizability. Additionally, the authors note the difficulty in researching a phenomenon that transforms as quickly as the COVID-19 pandemic. Particularly concerning prevention and vaccination policies, the climate has shifted dramatically, even in the three months since the measures were written. While masking policies were upheld in many public spaces until recently, they likely appear inappropriate and unnecessary for many people today. Additionally, while COVID-19 vaccines were free to everyone in America as they first became available, insurance is now required to obtain doses. Thus, measures of COVID-related policy should consider questions of equity, and future iterations of this study may include free vaccines as a policy addressing COVID-19 on a societal level.

## **Conclusion**

This study sought to determine the relationship between causal attributions for COVID-19, emotional responses, and COVID-19 related policy support. Experimental manipulation of personal responsibility (through behavior) impacted individual causal attributions, empathy, anger, and perceived similarity. Study participants felt more empathetic and less angry towards a character who took all possible measures to prevent COVID-19 infection. Further, they perceived themselves to be more like a character who displayed exemplary COVID-19 behaviors, compared to those who transgressed

behavioral norms. However, contrary to existing attribution literature, this did not elicit higher levels of support for policies intervening with COVID-19 on a societal level. This reflects the unique, polarizing nature of the ongoing pandemic, demonstrating the task for message designers to appeal to people's deeply held worldviews in attempting to garner health policy support.



## APPENDIX A: INSTRUMENT

### Individual Cause Attribution

A) How much do you agree or disagree with the following statements?

- 1) Many people have lost the willpower to wear masks
- 2) Many people refuse vaccines due to fears of the potential side effects on their health.
- 3) Self-quarantining after every covid-19 exposure can be incredibly inconvenient for most people.

Strongly disagree    Disagree    Neither Disagree/Agree    Agree    Strongly Agree

### Societal Cause Attribution

- 1) Many Americans are ready to be free of COVID-19 restrictions.
- 2) Many Americans have lost trust for the government's handling of covid-19.
- 3) Many people are worried about the further impacts of covid-19 on the economy.
- 4) Some people do not believe that vaccines will create herd immunity.

Strongly disagree    Disagree    Neither Disagree/Agree    Agree    Strongly Agree

**COVID-19 Related Policy Support**: adopted from lists of state-level legal interventions with COVID-19 (Fernandes et al., 2021)

B) How much do you agree or disagree with the following statements?

- 1) I support vaccine mandates for healthcare workers.
- 2) I support masking policies in healthcare facilities.
- 3) I support masking policies on airplanes
- 4) I support vaccine mandates for federal employees.
- 5) I support vaccine passport requirements for businesses and restaurants.
- 6) I support mask mandates in schools.
- 7) Continuing to fund the COVID-19 vaccine campaign is a good use of federal tax dollars.
- 8) I support campaign messages encouraging booster uptake
- 9) I would support covid-19 vaccines mandates for children and young adults attending public schools.

Strongly disagree    Disagree    Neither Disagree/Agree    Agree    Strongly Agree

### Individual Causal Attributions (Mantler et al., 2003)

C) How much do you agree or disagree with the following statements?

- 1) The subject's illness was under her personal control.
- 2) It was something that the subject did that caused her illness.
- 3) The subject could not have prevented her illness. (R)
- 4) The subject had no control over the outcome of her situation (R)
- 5) The subject is responsible for her illness.
- 6) The subject is accountable for her illness.
- 7) The subject's illness is not a result of her own negligence. (R)

- 8) The subject should not be held personally liable for her illness. (R)
- 9) The subject is to blame for her illness.
- 10) It is her own fault that the subject is ill.
- 11) The subject does not deserve what happened to her. (R)
- 12) The subject should not feel guilty for being ill. (R)

Strongly disagree    Disagree    Neither Disagree/Agree    Agree    Strongly Agree

**Empathy** (Niederdeppe et al., 2015)

D) How much do you agree or disagree with the following statements?

- 1) I was touched by the subject's situation.
- 2) I felt upset for those who suffer from the problem described in the message.
- 3) When I was reading the message, I felt sad for the subject.
- 4) I do not understand how people could get themselves into a difficult situation like the one described.
- 5) The message just seemed illogical to me.
- 6) I am baffled by people who get into situations like the one described.

Strongly disagree    Disagree    Neither Disagree/Agree    Agree    Strongly Agree

**Perceived Similarity** (Niederdeppe et al., 2015)

E) How much do you agree or disagree with the following statements?

- 1) The subject has values that are similar to the values I actually practice.
- 2) What the story says about the subject shows that she seems a lot like the person I actually am.
- 3) My real self is similar to the subject.
- 4) The subject has values that are like the values I would ideally wish to practice.
- 5) What the story says about the subject shows that she seems a lot like the person I ideally would like to be.
- 6) My ideal self is similar to the subject.

Strongly disagree    Disagree    Neither Disagree/Agree    Agree    Strongly Agree

**Participant Information**

**COVID-19 information**

Have you ever tested positive for COVID-19? Q 47-48

Yes    No    Prefer not to say

What is your current COVID-19 vaccination status?

Unvaccinated

Partially Vaccinated (One dose)

Fully Vaccinated (Two Doses)

Boosted

Prefer not to say

**Political Ideology** Q50,51

Generally speaking, do you consider yourself to be a Democrat, a Republican, an Independent, or something else?

On a scale from 1 to 7, where 1 means very liberal, 4 means moderate or middle of the road, and 7 means very conservative, which of the following do you usually think of yourself as?

1      2      3      4      5      6      7  
Very liberal                      Moderate                      Very conservative

#### Gender

- A. Male
- B. Female
- C. Non-binary
- D. Prefer not to say

#### Age

What is your age?

- A. 0 - 15 years old
- B. 15 - 30 years old
- C. 30 - 45 years old
- D. 45+

#### Education

What is the highest level of education you have received?

- Less than a High School Diploma
- High School Diploma or Equivalent
- Vocational Training
- Four Year (Bachelor's) Degree
- More than a Four-Year Degree

#### Ethnicity

Please specify your ethnicity.

- A. Caucasian
- B. African-American
- C. Latino or Hispanic
- D. Asian
- E. Native American
- F. Native Hawaiian or Pacific Islander
- H. Other/Unknown
- I. Prefer not to say

#### Employment

What is your current employment status?

- A. Employed Full-Time
- B. Employed Part-Time
- C. Currently Unemployed
- D. Retired
- E. Prefer not to say



## Income

Which amount is closest to your annual household income?

- Under \$50,000
- \$50,001 – \$100,000
- \$100,001 – \$150,000
- \$150,001 – \$200,000
- \$200,000 - \$250,000
- More than \$250,000

## APPENDIX B: STIMULI

### High Responsibility Condition MESSAGE #1

Melissa is a custodial worker at a hospital in a mid-sized suburban town. During the last two years, the COVID-19 pandemic has drastically impacted her work life. Though she does not work directly with patients, she was told by her supervisor that her behaviors can impact many people, including the vulnerable, sick patients who visit the hospital.

While Melissa consistently wears a mask (as is required by her healthcare organization), she faces several barriers to protecting herself and others. One way to prevent the spread of COVID-19 is to take a covid-test and/or quarantine when experiencing covid-symptoms or in cases of known exposure. However, Melissa's paychecks will suffer significantly if she stays home. Her wages are calculated hourly, meaning that she is not allowed any **paid time off**—any hours she spends away from work mean less money to spend on **rent and groceries**. In addition to losing her living wages, quarantining for Melissa means that she risks exposing the other members of her **multi-generational household** to the virus. Living with her extended family in a small home makes it difficult to self-isolate—especially since she shares a room with her elderly, immunocompromised mother.

*Despite the barriers Melissa faces in avoiding COVID-19, she understands that her catching the virus is not only dangerous for herself and her loved ones, but also to the many patients who visit her workplace daily. Melissa has taken advantage of the federal government's **stimulus checks**, storing the extra money in a savings account only*

*to be used in case of emergency. This prevented her from being late on her **monthly bills** when she had to take off work when she was **exposed to COVID-19** by a co-worker. Fortunately, she was able to switch rooms with her 15-year-old son so that she could **isolate** away from her vulnerable mother. Additionally, the stimulus money allowed her to take off work when vaccines became available to frontline workers, including all hospital staff. She obtained **each dose of the vaccine** (first, second, and booster) as soon as she could. Even though this meant missing out her much-needed wages, she felt that it was her duty to get vaccinated.*

Still, Melissa was recently infected with COVID-19 and is experiencing significant health complications. She, like other frontline workers, is exposed to COVID-19 at much higher rates than people in other professions. While her symptoms started with fever and fatigue, she is now experiencing pneumonia, a highly dangerous condition associated with severe COVID-19 cases.

## Medium Responsibility Condition MESSAGE #2

Melissa is a custodial worker at a hospital in a mid-sized suburban town. During the last two years, the COVID-19 pandemic has drastically impacted her work life. Though she does not work directly with patients, she was told by her supervisor that her behaviors can impact many people, including the vulnerable, sick patients who visit the hospital.

While Melissa consistently wears a mask (as is required by her healthcare organization), she faces several barriers to protecting herself and others. One way to prevent the spread of COVID-19 is to take a covid-test and/or quarantine when experiencing covid-symptoms or in cases of known exposure. However, Melissa's paychecks will suffer significantly if she stays home. Her wages are calculated hourly, meaning that she is not allowed any **paid time off**—any hours she spends away from work mean less money to spend on **rent and groceries**. In addition to losing her living wages, quarantining for Melissa means that she risks exposing the other members of her **multi-generational household** to the virus. Living with her extended family in a small home makes it difficult to self-isolate—especially since she shares a room with her elderly, immunocompromised mother.

*These barriers have made it difficult for Melissa to comply with COVID-safety guidelines as much as she would like. While she understood the great risks associated with COVID-19 infection, she simply could not afford to take **unpaid time off** required for quarantining. When Melissa was first notified that she had been exposed to a COVID-positive co-worker, she **self-quarantined**. However, when this occurred again two weeks later, she realized that it would be impossible for her to **keep up with her bills** if she*

*quarantined every time she was exposed to COVID. She also knew that she would go crazy if she were to quarantine with twelve family members for 10 days at a time, especially if all of them were to get sick. When Melissa received her first stimulus check, she was finally able to **take a break** from the stress of working at a hospital in the middle of a pandemic. On her day off, she took a bus to go visit her boyfriend in the next town over, who she had hardly seen since the pandemic began and the **hospital had increased her hours** due to extra sanitation needs. Her luck continued, when vaccines became accessible to frontline worker and Melissa was able to **schedule an appointment** for the first available Sunday, her only day of the week off. However, when it came time for her next dose, she was unable to find the time to make an appointment. The only other wage-earner in her family started taking extra shifts on Sundays, making it necessary for Melissa **to stay home** and take care of the young family members whose schools are still online. Before she knew it, months had gone by **without her second shot**.*

Melissa was recently infected with COVID-19 and is experiencing significant health complications. She, like other frontline workers, is exposed to COVID-19 at much higher rates than people in other professions. While her symptoms started with fever and fatigue, she is now experiencing pneumonia, a highly dangerous condition associated with severe COVID-19 cases.

**Low Responsibility Condition** MESSAGE #3

Melissa is a custodial worker at a hospital in a mid-sized suburban town. During the last two years, the COVID-19 pandemic has drastically impacted her work life. Though she does not work directly with patients, she was told by her supervisor that her behaviors can impact many people, including the vulnerable, sick patients who visit the hospital.

While Melissa consistently wears a mask (as is required by her healthcare organization), she faces several barriers to protecting herself and others. One way to prevent the spread of COVID-19 is to take a covid-test and/or quarantine when experiencing covid-symptoms or in cases of known exposure. However, Melissa's paychecks will suffer significantly if she stays home. Her wages are calculated hourly, meaning that she is not allowed any **paid time off**—any hours she spends away from work mean less money to spend on **rent and groceries**. In addition to losing her living wages, quarantining for Melissa means that she risks exposing the other members of her **multi-generational household** to the virus. Living with her extended family in a small home makes it difficult to self-isolate—especially since she shares a room with her elderly, immunocompromised mother.

*These barriers overwhelmed Melissa and made her feel like it would be pointless to try and prevent the inevitable spread of COVID-19. When one of Melissa's **friends tested positive** after they had recently been in contact, Melissa decided to go to work anyway. She felt that if her boss did not give any incentive to self-isolate after exposure, it was **not her responsibility** to sacrifice her **much-needed wages** to protect hospital patients she did not even know. In her view, her obligations were to provide for the*

*members of her household who needed to eat more than they needed to have a family member who never got sick. After some months went by without Melissa getting sick, she **relaxed** even more about COVID. When Melissa received her first stimulus check, she was finally able to **take a break** from the stress of working at a hospital in the middle of a pandemic. She and a group of her friends took a bus to the next town over, where COVID restrictions were much looser, and they could actually **gather in public**. A few weeks later, when her supervisor announced that frontline workers have been approved for the first covid-vaccines, Melissa decided not to waste her day off getting a shot that she did not even know the ingredients of. She had heard from a friend who works in a state that had already begun distributing vaccines weeks ago that the vaccines cause all sorts of **side effects**, including death.*

Melissa was recently infected with COVID-19 and is experiencing significant health complications. She, like other frontline workers, is exposed to COVID-19 at much higher rates than people in other professions. While her symptoms started with fever and fatigue, she is now experiencing pneumonia, a highly dangerous condition associated with severe COVID-19 cases.

**Control** MESSAGE #4

Melissa is a very hardworking waitress at Pizza Station, one of the most popular restaurants in her town. When she was first hired, she worked part-time as a hostess. After gaining some experience, she was promoted to a waitress position. One of the things she loves most about being a waitress is that it allows her to meet new people every night. While sometimes, work gets stressful, she prides herself on her ability to maintain a positive attitude. If Melissa noticed that other employees were having a bad day, she provided words of encouragement, which almost always made things better. Even when customers became upset with slow service, Melissa was polite and cheerful and was usually able to improve their mood.

Recently, one of Melissa's customers took notice of her sunny disposition. The customer revealed that he manages the local chapter of a major pharmaceutical company and invited her to apply for a sales position, handing Melissa his business card. When her shift ended that evening and she finally arrived at home, she searched for the pharmaceutical company online. While she was happy at Pizza Station and had not considered searching for work elsewhere, she had to admit that the pharmaceutical sales job had wonderful benefits.

Sales personnel at the company received health insurance coverage and two weeks of paid vacation yearly. While Melissa still has two more years of coverage on her parent's insurance plan, the paid vacation time would make a big difference for her—of the five years she spent as a Pizza Station employee, she spent four of her birthdays on the clock. She kept reading through the job description, and her heart sank—employees were expected to provide their own transportation to visit clients. While the city bus



system was a great way to travel to and from Pizza Station, she did not think that it would work for a job that required her to visit multiple locations daily. She signed and went to sleep, knowing she had to be up early for work in the morning.

The next day at work, Melissa felt that her mind kept drifting towards the sales job. One of her coworkers noticed that she seemed distracted and asked her if anything was wrong. Melissa confided in her coworker and revealed that she had been approached by a customer who seemed to think she had potential as a sales representative for his company. Melissa then admitted that she would not be able to apply for the job, since she did not have her own vehicle. Her coworker listened to her and expressed empathy, suggesting to Melissa that maybe, this is for the best. After all, Melissa had spent several years at Pizza Station and had many regulars who would miss her if she worked somewhere else. Still, Melissa felt let down—that she had been cheated from a job just because she made the economic decision not to buy a car. For the first time she felt trapped in the city she called home. She promised herself that she would start working overtime for as long as it took, hoping she would be able to pursue the next career advancement opportunity that came her way.

## APPENDIX C: IRB APPROVAL LETTER



THE UNIVERSITY OF  
SOUTHERN MISSISSIPPI

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### NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: 20-1000

SCHOOL/PROGRAM: School of Professional Nursing Practice  
RESEARCHER(S): Seymour Eagle, Harvey Golden

IRB COMMITTEE ACTION: Approved

CATEGORY: Expedited (the category listed below is just a sample of one, there are several categories that the protocol could be assigned)

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: 10.27.2020 – 10.27.2021

*Donald Sacco Jr.*

**Donald Sacco, Ph.D.**  
**Institutional Review Board Chairperson**

## REFERENCES

- Barreneche, S. M. (2020). Somebody to blame: on the construction of the other. In the context of the covid-19 outbreak. *Society Register*, 4(2), 19-32.
- Barry, C. L., Gollust, S., & Niederdeppe, J. (2012). Are Americans ready to solve the weight of the nation? *New England Journal of Medicine*, 367, 389–391.
- Barry, C. L., Brescoll, V. L., & Gollust, S. E. (2013). Framing childhood obesity: How individualizing the problem affects public support for prevention. *Political Psychology*, 34(3), 327-349.
- Baum, M., Uslu, A., Shere, A., Lazer, D., Trujillo, K. L., Druckman, J., ... Pippert, C. H. (2021, October 8). The COVID States Project #64: Continued high public support for mandating vaccines. <https://doi.org/10.31219/osf.io/9ac3d>
- Bentley, G. R. (2020). Don't blame the BAME: Ethnic and structural inequalities in susceptibilities to COVID-19. *American Journal of Human Biology*, 32(5), e23478.
- Bishop G, Brodkey AC. Personal responsibility and physician responsibility—West Virginia’s Medicaid plan. *New England Journal of Medicine* 2006;355:756–8
- Bleich, S. N., & Blendon, R. J. (2010). Public opinion and obesity. In R. J. Blendon, D. E. Altman, M. Brodie, & J. M. Benson (Eds.), *American public opinion and health care policy* (pp. 359–378). Washington, DC: CQ Press
- Braveman, P., & Gottlieb, L. (2014). The social determinants of health: it's time to consider the causes of the causes. *Public health reports*, 129(1\_suppl2), 19-31.

- Busselle, R., & Bilandzic, H. (2008). Fictionality and perceived realism in experiencing stories: A model of narrative comprehension and engagement. *Communication theory*, 18(2), 255-280.
- Campbell, R. G., & Babrow, A. S. (2004). The role of empathy in responses to persuasive risk communication: Overcoming resistance to HIV prevention messages. *Health communication*, 16(2), 159-182.
- Centers for Disease Control and Prevention. (2022, March 17). CDC Covid Data tracker. Centers for Disease Control and Prevention. Retrieved March 17, 2022, from [https://covid.cdc.gov/covid-data-tracker/#vaccinations\\_vacc-people-onedose-pop-5yr](https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-people-onedose-pop-5yr)
- Centers for Disease Control and Prevention. (2021). Prevent getting sick. Centers for Disease Control and Prevention. Retrieved October 8, 2021, from <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/index.html>.
- Centers for Disease Control and Prevention. (2022, February 19). Disparities in COVID-19-associated hospitalizations. Centers for Disease Control and Prevention. Retrieved March 10, 2022, from <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/racial-ethnic-disparities/disparities-hospitalization.html> (Links to an external site.)
- Chang, A., Schulz, P. J., Tu, S., & Liu, M. T. (2020). Communicative blame in online communication of the COVID-19 pandemic: Computational approach of stigmatizing cues and negative sentiment gauged with automated analytic techniques. *Journal of Medical Internet Research*, 22(11), e21504.

- Churchill, E., Shankardass, K., Perrella, A. M., Lofters, A., Quiñonez, C., Brooks, L., ... & Kirst, M. (2021). Effectiveness of Narrative Messaging Styles about the Social Determinants of Health and Health Inequities in Ontario, Canada. *International Journal of Environmental Research and Public Health*, 18(20), 10881.
- Corrigan, P., Markowitz, F. E., Watson, A., Rowan, D., & Kubiak, M. A. (2003). An attribution model of public discrimination towards persons with mental illness. *Journal of health and Social Behavior*, 162-179.
- Couch, D., Fried, A., & Komesaroff, P. (2017). Public health and obesity prevention campaigns– a case study and critical discussion. *Communication Research and Practice*.
- Dahlstrom, M. F. (2010). The role of causality in information acceptance in narratives: An example from science communication. *Communication Research*, 37(6), 857-875.
- Feldman S (1988) Structure and consistency in public opinion: The role of core beliefs and values. *American Journal Political Science* 32: 416–440.
- Friesen, P. (2018). Personal responsibility within health policy: unethical and ineffective. *Journal of Medical Ethics*, 44(1), 53-58.
- Gadarian, S. K., Goodman, S. W., & Pepinsky, T. B. (2021). Partisanship, health behavior, and policy attitudes in the early stages of the COVID-19 pandemic. *Plos one*, 16(4), e0249596.
- Gollust, S. E., & Cappella, J. N. (2014). Understanding public resistance to messages about health disparities. *Journal of health communication*, 19(4), 493-510.

- Gollust, S. E., Lantz, P. M., & Ubel, P. A. (2009). The polarizing effect of news media messages about the social determinants of health. *American journal of public health, 99*(12), 2160- 2167.
- Gollust, S. E., & Lynch, J. (2011). Who deserves health care? The effects of causal attributions and group cues on public attitudes about responsibility for health care costs. *Journal of Health Politics, Policy and Law, 36*(6), 1061-1095.
- Guttman, N., & Ressler, W. H. (2001). On being responsible: Ethical issues in appeals to personal responsibility in health campaigns. *Journal of health communication, 6*(2), 117-136.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York, NY: Wiley
- Iyengar, S. (1989). How citizens think about national issues: A matter of responsibility. *American Journal of Political Science, 878-900*.
- Jemal, A., Thun, M. J., Ward, E. E., Henley, S. J., Cokkinides, V. E., & Murray, T. E. (2008). Mortality from leading causes by education and race in the United States, 2001. *American journal of preventive medicine, 34*(1), 1-8.
- Kerr, J., Panagopoulos, C., & van der Linden, S. (2021). Political polarization on COVID-19 pandemic response in the United States. *Personality and Individual Differences, 179*, 110892.
- Kim, S. H., & Anne Willis, L. (2007). Talking about obesity: News framing of who is responsible for causing and fixing the problem. *Journal of health communication, 12*(4), 359-376.

- Labbé, F., Pelletier, C., Bettinger, J. A., Curran, J., Graham, J. E., Greyson, D., ... & Dubé, È. (2022). Stigma and blame related to COVID-19 pandemic: A case-study of editorial cartoons in Canada. *Social Science & Medicine*, 296, 114803.
- Lin, J., Lazer, D., Baum, M., Perlis, R., Pippert, C. H., Qu, H., ... Simonson, M. D. (2021, August 6). The COVID States Project #59: What Americans think about people who are not vaccinated. <https://doi.org/10.31219/osf.io/fy6jz>
- Lundell, H., Niederdeppe, J., & Clarke, C. (2013). Public views about health causation, attributions of responsibility, and inequality. *Journal of health communication*, 18(9), 1116-1130.
- Lynch, J., & Gollust, S. E. (2010). Playing fair: fairness beliefs and health policy preferences in the United States. *Journal of Health Politics, Policy and Law*, 35(6), 849-887.
- Mantler, J., Schellenberg, E. G., & Page, J. S. (2003). Attributions for serious illness: Are controllability, responsibility and blame different constructs? *Canadian Journal of Behavioural Science*, 35(2), 142–152. <https://doi.org/10.1037/h0087196>
- Mondal, P., Sinharoy, A., & Su, L. (2021). Sociodemographic predictors of COVID-19 vaccine acceptance: a nationwide US-based survey study. *Public Health*, 198, 252-259.
- Niederdeppe, J., Bu, Q. L., Borah, P., Kindig, D. A., & Robert, S. A. (2008). Message design strategies to raise public awareness of social determinants of health and population health disparities. *The Milbank Quarterly*, 86(3), 481-513.

- Niederdeppe, J., Shapiro, M. A., & Porticella, N. (2011). Attributions of responsibility for obesity: Narrative communication reduces reactive counterarguing among liberals. *Human Communication Research, 37*(3), 295-323.
- Niederdeppe, J., Roh, S., & Shapiro, M. A. (2015). Acknowledging individual responsibility while emphasizing social determinants in narratives to promote obesity-reducing public policy: a randomized experiment.
- Niederdeppe, J., Shapiro, M. A., Kim, H. K., Bartolo, D., & Porticella, N. (2014). Narrative persuasion, causality, complex integration, and support for obesity policy. *Health communication, 29*(5), 431-444.
- Oliver, J. E., & Lee, T. (2005). Public opinion and the politics of obesity in America. *Journal of health politics, policy and law, 30*(5), 923-954.
- Raifman, M. A., & Raifman, J. R. (2020). Disparities in the population at risk of severe illness from COVID-19 by race/ethnicity and income. *American journal of preventive medicine, 59*(1), 137-139.
- Robert, S. A., & Booske, B. C. (2011). US opinions on health determinants and social policy as health policy. *American journal of public health, 101*(9), 1655-1663.
- Rogers, E. A., Fine, S., Handley, M. A., Davis, H., Kass, J., & Schillinger, D. (2014). Development and early implementation of the bigger picture, a youth-targeted public health literacy campaign to prevent type 2 diabetes. *Journal of health communication, 144*-160.
- Schwartz MC. Trust and responsibility in health policy. *International Journal of Femenist Approaches to Bioethics 2009*;2:116–33.



- Shen, L. (2010). Mitigating Psychological Reactance: The Role of Message-Induced Empathy in Persuasion. *Human Communication Research*, 36, 397-422.
- Strange, J. J., & Leung, C. C. (1999). How anecdotal accounts in news and in fiction can influence judgments of a social problem's urgency, causes, and cures. *Personality and Social Psychology Bulletin*, 25, 436-449.
- Stringhini, S., Sabia, S., Shipley, M., Brunner, E., Nabi, H., Kivimaki, M., & Singh-Manoux, A. (2010). Association of socioeconomic position with health behaviors and mortality. *Jama*, 303(12), 1159-1166.
- Sun, Y., Krakow, M., John, K. K., Liu, M., & Weaver, J. (2016). Framing obesity: How news frames shape attributions and behavioral responses. *Journal of health communication*, 21(2), 139-147.
- Weiner, B. (1993). On sin versus sickness: A theory of perceived responsibility and social motivation. *American psychologist*, 48(9), 957.
- Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to stigmas. *Journal of personality and social psychology*, 55(5), 738.
- Yao, E., & Siegel, J. T. (2021). The influence of perceptions of intentionality and controllability on perceived responsibility: Applying attribution theory to people's responses to social transgression in the COVID-19 pandemic. *Motivation Science*.
- Zwieten, A., Saglimbene, V., Teixeira-Pinto, A., Howell, M., Howard, K., Craig, J. C., & Wong, G. (2018). The impact of age on income-related health status inequalities from birth to adolescence: a systematic review with cross-country comparisons. *The Journal of Pediatrics*, 203, 380-390.