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Schadenfreude After Watching the News: How Audiences Respond to Media Coverage of Partisans Disclosing Illnesses

Jessica Gall Myrick, PhD[1] and Jin Chen, MA[1]

Abstract

When public figures make announcements about their illness, audiences may be influenced to change their own health behaviors. However, if a disliked political figure becomes ill, feelings of schadenfreude, or pleasure at another's misfortune, may arise and schadenfreude could predict news consumer's information seeking and health-related intentions. Surveys of audience responses to news of conservative radio host Rush Limbaugh's lung cancer diagnosis ($N = 414$) and to news of Republican Senator Rand Paul's COVID-19 diagnosis ($N = 407$) found that such illness announcements can evoke schadenfreude, with schadenfreude associated with decreased willingness to undertake preventative health behaviors.

Keywords

schadenfreude, anxiety, parasocial relationship, health communication

When media outlets cover stories about celebrity illnesses, there can be beneficial consequences for public health; these announcements can raise awareness and motivate the public to take preventive actions (Basil, 1996; Basil & Brown, 1994; Brown & Basil, 1995). The emotional response the public has to learning about celebrity illnesses, such as distress (Dillman Carpentier & Parrott, 2016; Francis, 2018) or worry (Myrick et al., 2014), can motivate people to take protective health actions, such as

[1]The Pennsylvania State University, University Park, USA

Corresponding Author:
Jessica Gall Myrick, Donald P. Bellisario College of Communications, The Pennsylvania State University, 104 Carnegie Building, University Park, PA 16802, USA.
Email: jgm43@psu.edu

seeking more information about a health threat or becoming more willing to change their behaviors.

However, most of this research has focused on generally well-liked or popular public figures. Partisan divisive public figures who disclose an illness may facilitate different responses from the public. Social emotions are important predictors of human behavior (Lazarus, 1991); as such, it is important to understand the full spectrum of possible emotional responses to media coverage of politician's illnesses as they may help health and government organizations predict public responses to such news. One relevant yet understudied emotion is that of schadenfreude, or the delight one takes in a disliked individual or group's misfortune (R. H. Smith et al., 1996). The goal of this article is to expand upon previous studies of liked celebrities to include more polarizing political figures who disclose illnesses, as well as to study the role of schadenfreude in shaping responses to public figure illness disclosures.

To achieve this goal, we conducted two surveys about partisan figures who disclosed an illness: Conservative radio host Rush Limbaugh, who announced in February 2020 that he has Stage 4 lung cancer, and Republican senator Rand Paul, who announced in March 2020 that he had COVID-19. After reviewing the literature about schadenfreude and public figure illness announcements, we present a conceptual model whereby parasocial relationships and ideology predict emotional responses (schadenfreude and anxiety) to celebrity illness disclosures, which in turn predict information seeking, interpersonal communication, and behavioral intentions. We then discuss the methods and results of these surveys before considering the implications for media research and practice.

Schadenfreude

Schadenfreude can be defined as the experience of pleasure upon learning of the misfortunate of another (Ortony et al., 1988; R. H. Smith et al., 1996). The name is a compound word derived from the German words *schaden* (harm) and *freude* (joy) and it can be interpreted as the feeling of pleasure, akin to passive gloating, when seeing someone else suffer (R. H. Smith & van Dijk, 2018). If people believe that someone they dislike deserves the misfortune they are experiencing, it can intensify feelings of schadenfreude in the observers (van Dijk et al., 2005). Schadenfreude is also strongly associated with decreased sympathy for the person suffering (van Dijk et al., 2008). Notably, schadenfreude differs from the emotion of envy, which occurs when people want something another person has; envy is a negative emotional state, but schadenfreude is a positive one involving hedonic pleasure (R. H. Smith et al., 1996).

Although it may be socially frowned upon to openly display one's feelings of schadenfreude, it is not an uncommon emotional response to seeing a disliked individual experience misfortune (R. H. Smith & van Dijk, 2018). Psychologists argue that schadenfreude serves a functional purpose: It helps people, especially those experiencing low self-worth or feeling threatened, to cope with their situation (van Dijk et al., 2012).

Multiple studies have found that media can spur feelings of schadenfreude. For instance, a neuroimaging study, examining baseball fans as they watched a simulation of the rival team playing a game, found that specific regions of the brain were activated, and that activation of these brain regions correlates with both the sensation of pleasure and antisocial behaviors, such as wanting to harm a fan of the rival team (Jankowski & Takahashi, 2014). Other researchers found that feeling schadenfreude can increase negative word-of-mouth responses (i.e., talking badly to others about a product or brand; Ouwerkerk et al., 2016; Sundie et al., 2009). Schadenfreude can also increase intentions to share stories of a politician or CEO's embarrassing downfall through social media (Crysel & Webster, 2018). Together, this research demonstrates that schadenfreude has consequences for communication-related and behavioral outcomes.

Schadenfreude is a social emotion, meaning our social identities are a key factor in determining the elicitation of the emotion (R. H. Smith & van Dijk, 2018). If someone belongs to a different group than us, it can increase the likelihood of experiencing schadenfreude when the out-group member experiences a misfortune. In the case of political figures who become ill, they have ready out-groups: those who identify with a different political party or ideological orientation. In fact, research has found that political affiliation predicts schadenfreude when one's opposed candidates did poorly in both U.S. (Combs et al., 2009) and Dutch (Ouwerkerk et al., 2016) elections. According to intergroup emotions theory (E. R. Smith & Mackie, 2008), salient group labels (e.g., woman, Republican) can evoke specific discrete emotions, which in turn predict perceptions of and behavior toward members of those groups. We aim to test how media coverage of a political figure's illness may influence schadenfreude.

Audience Involvement

Schadenfreude responses to an illness announcement may depend on the type of mediated relationship audiences have with the political figure. Through media exposure, people become psychologically involved with media personae (Brown & Basil, 2010; Giles, 2000, 2002). Of the various types of audience involvement with mediated personae, parasocial relationships may be most applicable for studying how people relate to a political figure who announces an illness. Horton and Wohl (1956) developed the concept of parasocial interaction (PSI), a form of perceived intimacy with mediated personae. Giles (2003) argued that PSI occurs when "we respond to a media figure as if he/she/it were a real person" (p. 188). Repeated instances of parasocial interaction foster deeper parasocial attachments, often referred to as parasocial relationships (PSRs; Dibble et al., 2016; Rubin & McHugh, 1987).

PSRs with public figures have been shown to shape health-related outcomes of media use. Theoretically, this work is grounded in concepts from social cognitive theory, including the idea that media figures can motivate observers' knowledge acquisition and behavior change (Brown, 2015; Brown & Basil, 2010). For example, when Magic Johnson announced he was HIV-positive, individuals who felt psychologically involved with Johnson—as if he were a friend—reported higher levels of personal

concern about the risk of HIV and stronger intentions to change their own risky behaviors (Brown & Basil, 1995).

As with real-life relationships, not all PSRs are positive. Although audiences may feel as though they know a public figure, thanks to media exposure, they may not actually like or respect the person. Hartmann et al. (2008) investigated how positive versus negative PSRs with Formula 1 race car drivers shaped Formula 1 fans' perceptions, with positive PSR defined as a combination of virtual friendship and respectful interest, and negative PSR conceptualized as a combination of antipathy and disinterest in further parasocial interactions. The researchers found that positive PSR was associated with hoping for a positive outcome for their favorite driver, whereas negative PSR with a driver predicted hope for a negative outcome.

Another study examined the roles of positive versus negative PSR with U.S. President Donald Trump in shaping American's fast food consumption perceptions and intentions. Myrick (2020) found that these different types of PSR had different relationships with psychological mediators of fast food consumption intentions. Positive PSR directly predicted stronger social norms and intentions to eat fast food as well as stronger perceptions that fast food consumption is socially acceptable, whereas negative PSR was related to perceptions that eating fast food was under one's own behavioral control. The different associations for positive versus negative PSR suggest that measuring both in the same model can provide a more nuanced picture as to the ways in which different types of PSR with a political figure could be related to responses to illness announcements. Although they are opposite in valence, positive and negative PSR are not necessarily completely opposing forces at opposite ends of a single continuum. We may have a respectful interest in a political figure (a component of positive PSR) but also not love the person and experience some antipathy toward some of their actions (a component of negative PSR). Conversely, we may feel as though we have somewhat of a virtual friendship with a public figure (positive PSR) from past media use (e.g., watching Donald Trump's show *The Apprentice* a decade ago), but also not really care much about what new events happen to them (negative PSR; for example, not wanting to watch current news stories about him). Given the nuances in these concepts and previous evidence (Myrick, 2020) that they can work in different ways on cognitive responses to media coverage of a public figure, we suggest treating them as separate but potentially co-occurring phenomenon in the realm of public figure illness disclosures.

Emotional Responses

Individuals may experience a variety of emotions in response to news of a political figure's illness. Anxiety, sometimes referred to as worry or concern, is a state of ambiguity or uncertainty regarding a potential threat, which makes coping difficult (Lazarus, 1991). Anxiety is important to study because it is associated with outcomes such as greater information seeking (Myrick & Willoughby, 2019; Pokrywczynski et al., 2018) and changing health behaviors (Seo, 2021). In the case of a public figure who falls ill, individuals may become concerned that this person will suffer or die. Moreover, the

public figure's illness may cause individuals to worry that they, too, are susceptible to the condition. For example, after Apple founder and leader Steve Jobs died from pancreatic cancer, Myrick et al. (2014) found that individuals who identified with Jobs expressed greater cancer worry after his death, which motivated them to seek information and talk to others about cancer.

In a political context, emotions are also relevant. Americans are affectively polarized; there is a strong sense of dislike and distrust of individuals with opposing views, whereas positive emotional connections with people who hold similar views have increased (Iyengar et al., 2019). As such, this greater tendency toward disliking partisan others could increase the likelihood of schadenfreude in response to someone from a different political orientation falling on hard times. Conversely, individuals who hold similar political views may be more likely to worry about an ill political figure. People with similar ideologies may also worry that they, as someone who has a similar worldview and perhaps even models his behaviors, may likewise be at risk. Anxiety is a key component of modern U.S. politics: Anxiety in response to politicians or policies often drives citizens to seek information about relevant threats and process it carefully (Gadarian & Albertson, 2014; Marcus & MacKuen, 1993).

Hypotheses and Research Questions

First, we predict main effects of PSRs:

H1a: Individuals with higher levels of positive PSR with an ill politician will report lower levels of schadenfreude upon first hearing the news.
H1b: Individuals with higher levels of negative PSR with an ill politician will report higher levels of schadenfreude upon first hearing the news.
H2a: Individuals with higher levels of positive PSR with an ill politician will report higher levels of anxiety upon first hearing the news.
H2b: Individuals with higher levels of negative PSR with an ill politician will report lower levels of anxiety upon first hearing the news.

In addition, given the social underpinnings of schadenfreude, we predict that political ideology will influence emotional responses:

H3: People who do hold similar ideological views will report lower feelings of schadenfreude after learning about a political figure's illness than will people who hold different views.
H4: People who hold similar ideological views will report stronger feelings of anxiety after learning about a political figure's illness than will people who hold different views.

As individuals are often motivated to communicate about their feelings (Rimé et al., 1991, 2011), and communication behaviors may facilitate stronger commitments to take health actions (Southwell & Yzer, 2007, 2009), we propose two additional hypotheses:

H5: People who experience higher levels of schadenfreude will be more likely to (a) communicate interpersonally, and (b) seek information about the political figure's health issue.
H6: People who experience higher levels of anxiety will be more likely to (a) communicate interpersonally, and (b) seek information about the political figure's health issue.

Furthermore, previous work examining the effects of celebrity health media has found that stronger audience involvement can trigger communication-related behaviors, such as interpersonal communication and information seeking (Cohen & Hoffner, 2016; Dillman Carpentier & Parrott, 2016; Francis, 2018; Myrick et al., 2014). But, the measures of PSR used in these studies were positive and did not encapsulate negative PSRs. Therefore, we offer a replication hypothesis followed by a research question:

H7: Positive PSR will lead to greater (a) interpersonal communication, and (b) seek information about the political figure's health issue.
RQ1: How, if at all, will negative PSR relate to (a) interpersonal communication, and (b) information seeking about the political figure's health issue?

It is also unclear whether schadenfreude will be directly related to health behavioral intentions. Although anxiety is often associated with health outcomes, there is conflicting evidence as to how motivational it is in different contexts (Guttman & Salmon, 2004; Popova, 2012). In addition, communication behaviors such as interpersonal communication and information seeking are often studied as message outcomes, but not always as predictors of subsequent behaviors. However, some research points to the centrality of interpersonal communication about topics in the media subsequently shaping behaviors (Choi, 2014; Katz & Lazarsfeld, 1955). As such, we ask additional research questions:

RQ2: How will (a) schadenfreude and (b) anxiety be associated with health behavioral intentions?
RQ3: Will communication behaviors (i.e., interpersonal communication or information seeking) predict health behavioral intentions?

Together, these hypotheses and research questions lead to a conceptual model, demonstrating the interrelationships between variables (see Figure 1). In this model, parasocial relationships as well as political affiliation predict emotional responses (schadenfreude and anxiety) to consuming news about a political figure's illness. These emotions predict communication behaviors and behavioral intentions. Communication behaviors, additionally, predict intentions.

The conceptual model is helpful for taking an overview of how learning the news of a political figure's illness might shape audience behavior through specific psychological and participatory mechanisms (i.e., schadenfreude, anxiety, information seeking,

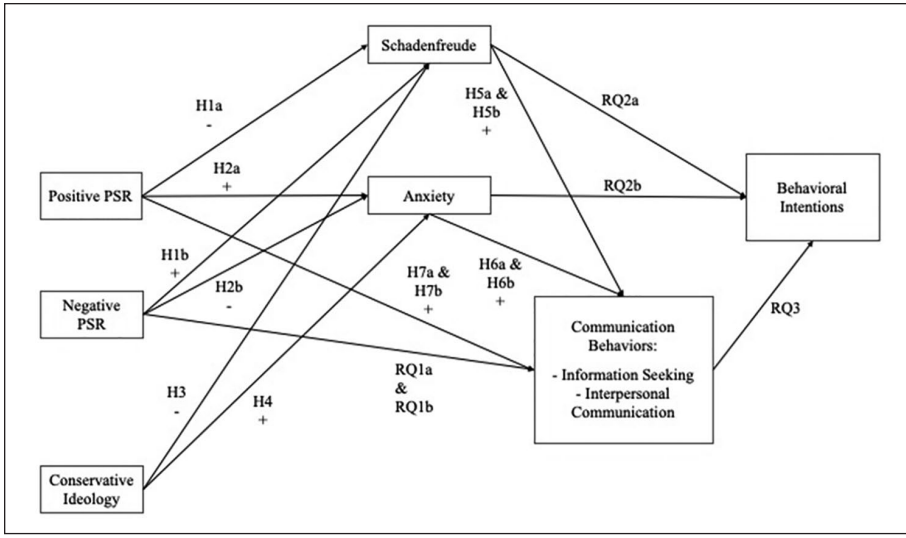

Figure 1. Conceptual model.
Note. PSR = parasocial relationship.

and interpersonal communication). However, it leaves open the question of whether learning about this news might affect audiences differently than individuals who did not know the political figure was ill. As such, we ask a final research question:

RQ4: Will there be differences in behavioral intentions between those who had and had not heard about the political figure's illness?

To address these hypotheses and research questions, we conducted two surveys.

Study 1: Rush Limbaugh

Rush Limbaugh announced on February 3, 2020 that he had been diagnosed with Stage 4 lung cancer (Fortin, 2020). Since 1988, Limbaugh has hosted *The Rush Limbaugh Show*, a top-rated program popular with conservative audiences. Limbaugh is a vocal supporter of President Donald Trump and has attracted controversy throughout his career. He has lost sponsors for statements he made about an African American football player, for example, and after publicly acknowledging an addiction to prescription painkillers and entering a rehabilitation center in 2003; Limbaugh was later arrested on prescription drug charges in 2006 (Fortin, 2020). Limbaugh frequently smokes cigars during his show (Fortin, 2020). He had downplayed the link between smoking and cancer while also arguing that smokers should be thanked by nonsmokers for the taxes they pay on tobacco products (Matthews, 2020).

Study 1 Procedure

After receiving approval from an institutional review board, the survey was launched on Amazon's Mechanical Turk (MTurk) platform on March 4, 2020. Previous studies have shown that data from MTurk are typically as reliable as data collected through traditional methods (Buhrmester et al., 2011), and MTurk samples are more representative of the population than student samples (Sheehan, 2018). To help ensure quality responses, participants needed to have human intelligence task (HIT) approval ratings above 90% and more than 100 approved HITs to qualify.

The survey began with demographic and media use questions. Next, participants viewed a photo of Rush Limbaugh with the text stating, "Rush Limbaugh, a well-known conservative personality who hosts *The Rush Limbaugh Show*, is pictured here." Thereafter, participants responded to items assessing their parasocial relationships with Limbaugh. Participants were then asked whether they had heard about Limbaugh's diagnosis. If they answered "yes," they answered questions about their emotional and communicative responses after learning of Limbaugh's diagnosis. All participants were asked about their own health status and related behavior since February 3, 2020.

Study 1 Participants

In total, 414 U.S.-based respondents from 47 U.S. states or territories participated in Study 1 and passed all the data quality checks. Respondents 18 years or older were recruited through MTurk and received US$0.76 in compensation. Among the respondents, 46.1% identified as female and 65.5% reported having a 4-year college degree. The mean age of all respondents was 38.1 years (SD = 12.0 years). Reported racial demographics were predominantly White/Caucasian (73.9%), followed by Black/African American (15%), Asian/Pacific Islander (7%), Hispanic/Latino(a) (5.3%), and American Indian/Native American (1.9%). About half of the respondents (50.7%, n = 210) had heard about Limbaugh's diagnosis.

Study 1 Measures

Unless otherwise noted, measures were assessed on 7-point Likert-type scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Political ideology. Respondents were asked to rate their political ideology on the following scale adopted from the American National Election Studies: 1 = *extremely liberal*, 2 = *liberal*, 3 = *slightly liberal*, 4 = *moderate/middle of the road*, 5 = *slightly conservative*, 6 = *conservative*, and 7 = *extremely conservative* (M = 3.62, SD = 1.82).

Parasocial relationships. Twenty-one items were adapted from Hartmann et al. (2008) to assess parasocial relationship with Rush Limbaugh. Twelve items assessed positive PSR (α = .97; M = 2.73, SD = 0.97); six of the items are from the "virtual

friendship" subscale of Hartmann et al.'s scale and six are from the "respectful interest" subscale. Sample items included "I think of Rush Limbaugh like an old friend"; "Rush Limbaugh makes me feel as comfortable as when I am with friends"; "I think about Rush Limbaugh even when he is not in the media"; and "I miss Rush Limbaugh if I do not see him in the media for a long time." Nine items assessed negative PSR; five from the "antipathy" subscale and four from the "disinterest" subscale. Sample items included "I am happy whenever I learn that something bad has happened to Rush Limbaugh"; "I never agree with Rush Limbaugh"; "It is annoying to see Rush Limbaugh in the media"; and "Rush Limbaugh does not perform admirable actions" ($\alpha = .95$; $M = 4.49$, $SD = 1.84$). An exploratory factor analysis using principal components extraction and varimax rotation on these 21 items revealed two separate factors (positive and negative PSR) with eigenvalues greater than 1 that accounted for 76.35% of the variance.

Schadenfreude and anxiety. Emotional responses were gauged by presenting the following prompt: "When you first heard that Rush Limbaugh had lung cancer, how did you feel? Please rate how much of each of the following emotions you felt." Schadenfreude was measured with four items adapted from previous research (James et al., 2014; van de Ven et al., 2015): amused, satisfied, pleased, and sympathetic, with sympathetic reverse coded ($\alpha = .80$; $M = 2.59$, $SD = 1.61$). Anxiety was measured with three items adapted from previous research (Myrick et al., 2019; Nabi, 2016), including anxious, worried, and concerned ($\alpha = .89$; $M = 2.83$, $SD = 1.90$).

Information seeking. Participants who indicated that they had sought information about cancer were asked how much time they spent doing so on a 7-point scale: 1 = *30 min or less*, 2 = *more than 30 min to 1 hr*, 3 = *more than 1 hr to 2 hr*, 4 = *more than 2 hr to 3 hr*, 5 = *more than 3 hr to 4 hr*, 6 = *more than 4 hr to 5 hr*, and 7 = *more than 5 hr*. This variable was adopted from previous research (Dillman Carpentier & Parrott, 2016; Myrick et al., 2014) and the answers were coded into 1 to 7 and those who did not seek information were coded as 0 ($M = 0.11$, $SD = 0.51$).

Interpersonal communication. Participants who reported that they had talked with someone about lung cancer, after learning Limbaugh's diagnosis, were asked how much time they spent doing so, on a 7-point scale: 1 = *30 min or less*, 2 = *more than 30 min to 1 hr*, 3 = *more than 1 hr to 2 hr*, 4 = *more than 2 hr to 3 hr*, 5 = *more than 3 hr to 4 hr*, 6 = *more than 4 hr to 5 hr*, and 7 = *more than 5 hr*. This variable was adopted from previous research (Myrick et al., 2014). Those who did not talk with others about lung cancer were coded as 0 ($M = 0.17$, $SD = 0.70$).

Health behavioral intentions. Health behavioral intentions were measured by asking participants' willingness to engage in the following activities recommended by public health experts as helpful for cancer prevention (Centers for Disease Control and Prevention, 2019): "Talk to a medical care provider about your own risk of cancer," "Eat more fruits and vegetables," "Decrease the amount of processed foods you consume,"

"Exercise more often," "Avoid personally using tobacco products," and "Avoid inhaling tobacco byproducts" ($\alpha = .86$; $M = 5.57$, $SD = 1.27$).

Study 1 Results

First, a set of bivariate correlations was run between potential control variables and the main study outcome, cancer-related intentions. Variables that were significant in these analyses included history of cigar use ($r = -.13$, $p < .01$) and female gender ($r = .17$, $p < .001$). As such, they were used as control variables in the remaining analyses.

An analysis of covariance (ANCOVA) was used to address **RQ4**, which asked whether there would be differences in intentions between those who had heard about Limbaugh's diagnosis ($n = 206$) and those who had not ($n = 198$), after controlling for history of cigar use and female gender. The results revealed a significant difference: $F(3, 400) = 5.37$, $p = .001$; $\eta_p^2 = .04$. However, this difference was due to the influence of the control variables because a pairwise comparison of estimated marginal means revealed that those who had heard ($M = 5.58$, $SD = 1.22$) did not significantly differ ($p = .91$) from those who had not ($M = 5.55$, $SD = 1.33$).

To address the remaining hypotheses and research questions, a path analysis was run in Mplus Version 8 using the ML estimator with the data from individuals who had heard about Limbaugh's cancer diagnosis. The model resembled the conceptual model, with the addition of gender and history of cigar use included as direct predictors of behavioral intentions. The initial model demonstrated adequate fit to the data; however, once included in the path analysis, gender and history of cigar use were no longer significant predictors of behavioral intentions. For parsimony's sake, they were removed. The final model also demonstrated adequate fit to the data: $\chi^2(df = 5) = 10.80$, $p = .06$, root mean square error of approximation (RMSEA) = .07 (90% confidence interval [CI] = [.00, .14], p-CLOSE = .21), comparative fit index (CFI) = .99, SRMR = .03 (see Figure 2).

In this model, negative and positive PSR were both positive predictors of schadenfreude, but the relationship between positive PSR and schadenfreude was smaller than for negative PSR. This finding partially supports **H1a**'s contention that positive PSR could help dampen schadenfreude responses (more convincing support for **H1a** would involve a significant but negative relationship between positive PSR and schadenfreude) and it does support **H1b**'s contention that negative PSR would predict higher levels of schadenfreude. **H2a** argued that positive PSR would be associated with higher levels of anxiety, whereas **H2b** argued that negative PSR would be associated with less anxiety, and the significant path weights and directions support both of these predictions. Political ideology did not predict schadenfreude or anxiety and therefore **H3** and **H4** were not supported. **H5** and **H6** predicted that schadenfreude and anxiety, respectively, would be positively related to communication behaviors. These hypotheses were partially supported: Schadenfreude predicted greater information seeking but was not related to interpersonal communication; anxiety was not significantly related to interpersonal communication but did serve as a positive and significant predictor of information seeking. **H7** suggested that positive PSR would also predict these two communication behaviors, and the data fully supported that prediction.

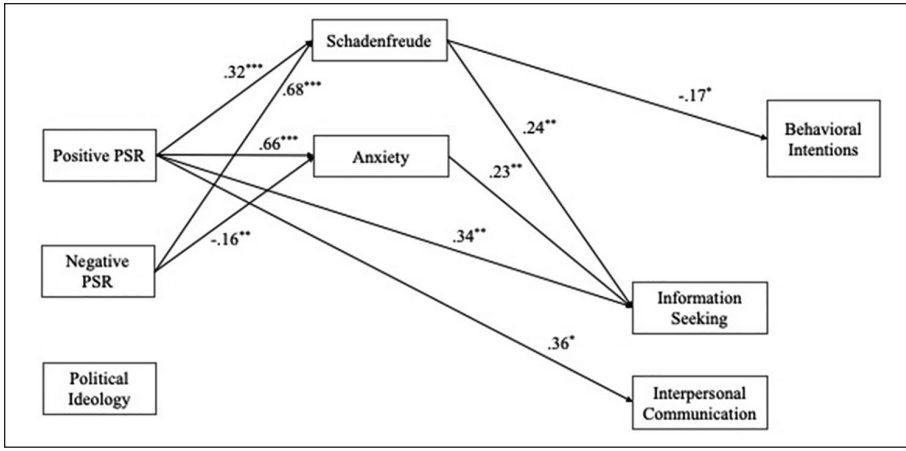

Figure 2. Limbaugh path model results.
Note. PSR = parasocial relationship.
*$p < .05$. **$p < .01$. ***$p < .001$.

RQ1 asked about negative PSR and communication behaviors, and the data revealed that negative PSR was not significantly related to either. **RQ2** asked how emotions would relate to behavioral intentions. Schadenfreude predicted decreased intentions, whereas anxiety did not have a significant relationship with intentions. With regard to **RQ3**'s question about the interplay of communication behaviors and intentions, neither behavior predicted intentions.

Study 1 Discussion

The results partially supported the conceptual model. That is, PSRs with a political figure with an illness sparked emotional responses and communication behaviors which, in turn, predicted health behavioral willingness. However, there were some notable departures. For instance, political ideology did not predict emotional responses to the news of Limbaugh's lung cancer. It could be that Limbaugh's insistence that cigars would not hurt him and that he deserved praise for smoking meant that even conservatives who agreed with his views felt as though he deserved the disease. A post hoc correlation revealed a small but positive association between cigar smoking and ideology ($r = .17$, $p = .001$), meaning conservatives were more likely to be cigar smokers. A second study with a different political figure diagnosed with a different health condition was run to see whether the conceptual model and findings from Study 1 would replicate.

Study 2: Rand Paul

Senator Rand Paul, a Kentucky Republican, is known for his libertarian views, affiliation with conservative "tea party" groups, and desire to limit the size and scope of the

government (CNN Editorial Research, 2020). As the COVID-19 pandemic became an increasingly serious issue in the United States during March 2020, Paul was one of only three senators who voted against a multibillion-dollar rescue bill to combat the virus (Fandos & Edmondson, 2020). On March 22, news outlets reported that Paul had tested positive for COVID-19, which the senator's staff later confirmed (Fandos & Edmondson, 2020). While awaiting the results of his test, Paul continued with his typical routine, lunching with other senators and using the Senate gym. Both the public and fellow senators admonished Paul for not self-quarantining after being tested.

Study 2 Procedure

The survey was launched on MTurk on March 31, 2020. Study 2 followed the same procedures as Study 1, except that Paul and COVID-19 were the foci.

Study 2 Participants

In Study 2, 407 respondents from 48 U.S. states or territories consented to participate and passed all data quality checks. Respondents 18 years or older were recruited through MTurk and received US$0.76 in compensation. Of this sample, 38.1% identified as female and 74.2% reported having a 4-year college degree. The mean age of all respondents was 36.14 years ($SD = 11.35$ years). Reported racial demographics were predominantly White/Caucasian (67.1%), followed by Black/African American (23.1%), Asian/Pacific Islander (4.2%), Hispanic/Latino(a) (7.1%), American Indian/Native American (3.4%), and Other (.7%). Respondents were asked whether they had heard about Paul's COVID-19 diagnosis: 41% had heard ($n = 167$).

Study 2 Measures

All measures, except for behavioral intentions, were identical to those in Study 1 with the targets changed to Paul and COVID-19.

Political ideology. The American National Election Studies measure of ideology was used ($M = 3.77$, $SD = 1.86$).

Parasocial relationships. Twelve items formed an index of positive PSR ($\alpha = .97$; $M = 3.40$, $SD = 1.86$). Nine items formed an index of negative PSR ($\alpha = .92$; $M = 4.24$, $SD = 1.56$).

Schadenfreude/anxiety. Four items formed an index of schadenfreude ($\alpha = .68$; $M = 2.88$, $SD = 1.49$). Three items formed an index of anxiety ($\alpha = .89$; $M = 3.51$, $SD = 1.81$).

Information seeking. To assess this variable, responses were coded on a 1 to 7 scale, and those who did not seek information were coded as 0 ($M = 0.59$, $SD = 1.42$).

Interpersonal communication. To assess this variable, responses were coded on a 1 to 7 scale, and those who did not seek information were coded as 0 ($M = 0.27$, $SD = 0.80$).

COVID-19-related prevention behavioral intent. Health behavioral intention was measured by asking participants' willingness to engage in seven activities suggested by the Centers for Disease Control and Prevention (2020). Sample items included "Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water," "Avoid touching eyes, nose and mouth," and "Stay at home if you begin to feel unwell, even with mild symptoms such as headache and slight runny nose, until you recover" ($\alpha = .91$; $M = 5.98$, $SD = 1.06$).

Study 2 Results

First, a set of bivariate correlations was run between potential control variables and COVID-19-related behavioral intentions. Significant correlations with intentions included female gender ($r = .26$, $p < .001$), education level ($r = -.14$, $p < .01$), being a trained health care provider ($r = -.16$, $p < .01$), being employed full-time ($r = -.18$, $p < .001$), and having a COVID-19 diagnosis ($r = .16$, $p < .001$). As such, they were used as control variables in subsequent analyses.

An ANCOVA was used to address **RQ4**, which asked whether there would be differences in behavioral intent between those who had heard about Paul's diagnosis ($n = 160$) and those who had not ($n = 240$), controlling for female gender, education level, full-time employment status, health care provider status, and having COVID-19. The results revealed a significant difference: $F(6, 394) = 11.17$, $p < .001$; $\eta_p^2 = .15$. A pairwise comparison of estimated marginal means demonstrated that those who had heard ($M = 6.30$, $SD = 0.90$) differed significantly ($p < .001$) from those who had not ($M = 5.78$, $SD = 1.11$).

To address the remaining hypotheses and research questions, a path analysis was run in Mplus Version 8 with the data from individuals who had heard about Paul's COVID-19 diagnosis. The model reflected the conceptual model with the addition of the four control variables as direct predictors of behavioral intentions. The control variables were nonsignificant predictors and, therefore, dropped for the sake of parsimony. The final model demonstrated adequate data fit: $\chi^2(df = 5) = 13.94$, $p = .02$, RMSEA = .10 (90% CI = [.04, .17], p-CLOSE = .07), CFI = .98, SRMS = .04.

Negative and positive PSR were both positive predictors of schadenfreude, but the relationship between positive PSR and schadenfreude was smaller than for negative PSR, partially supporting **H1a**'s contention that positive PSR could dampen schadenfreude responses and fully supporting **H1b**'s prediction that negative PSR would evoke greater schadenfreude (see Figure 3). **H2a** argued that positive PSR would predict greater anxiety, whereas **H2b** argued that negative PSR would predict less anxiety, and the significant path weights and directions supported these predictions. Political ideology did not predict schadenfreude or anxiety; **H3** and **H4** were not supported. **H5** and **H6** predicted that schadenfreude and anxiety would be positively related to communication behaviors. These hypotheses were not supported: neither emotion had a

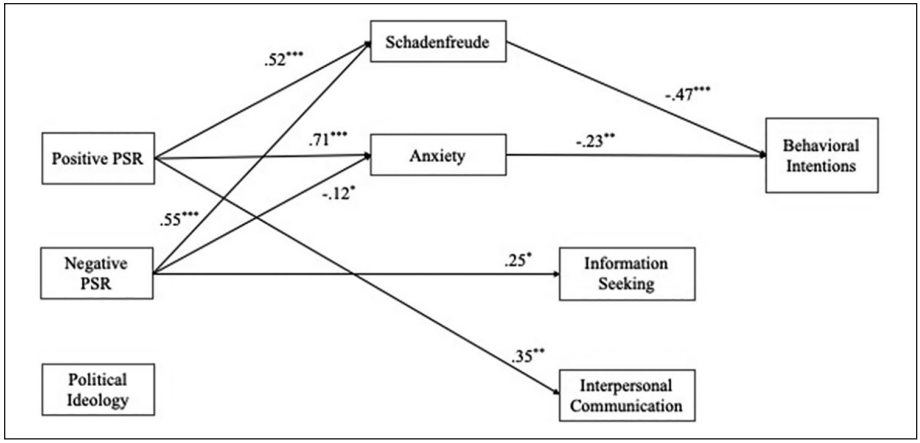

Figure 3. Paul path model results.
Note. PSR = parasocial relationship.
*$p < .05$. **$p < .01$. ***$p < .001$.

significant relationship with interpersonal communication or information seeking. **H7** suggested that positive PSR would also predict these communication behaviors, but it was only a significant positive predictor of interpersonal communication; it did not predict information seeking.

RQ1 asked about negative PSR and communication behaviors. The data revealed that negative PSR was not significantly related to interpersonal communication, but it was a significant positive predictor of information seeking. **RQ2** asked how emotions would relate to behavioral intentions. Both schadenfreude and anxiety predicted decreased intentions. With regard to **RQ3**'s question about the interplay of communication behaviors and intentions, neither interpersonal communication nor information seeking was significantly associated with intentions.

Study 2 Discussion

Unlike in Study 1, there was a significant difference between individuals who had heard about Paul's COVID-19 diagnosis and those who had not in their willingness to engage in COVID-19 prevention behaviors. It could be that people stigmatize individuals with lung cancer as the disease is strongly associated with smoking (Myrick, 2017), and therefore are less likely to be influenced by a political figure's lung cancer diagnosis than with a highly contagious virus that could strike anyone. Future research, ideally with pre- and post-illness-announcement measures of behavior, could help clarify the effects of disease stigmatization or vulnerability.

Schadenfreude predicted decreased behavioral intentions in Study 2. Since learning about Paul's COVID-19 diagnosis was associated with greater willingness to engage in prevention behaviors, but schadenfreude was linked with decreased willingness to

take these actions, health advocates may want to use targeted social media messages aimed at audiences with neutral or positive attitudes toward a political figure (e.g., they have liked the figure's posts in the past) to inform those audiences least likely to experience schadenfreude about the politician's diagnosis.

General Discussion

Feeling displeasure at another's misfortune may not be a celebrated emotional response, but it is a human one. Because people are social animals who have both positive and negative relationships with each other—including with public figures they only know through media—it is inevitable that some will feel schadenfreude when presented with news of a disliked politician's illness (see Table 1 to compare results across studies).

This research advances the literature in several ways. First, schadenfreude was a consistent mechanism of behavioral intentions across both studies. Theoretically and empirically, different emotional responses are associated with different patterns of behavior (known as action tendencies; Lazarus, 1991; Roseman, 1996). Schadenfreude has been associated with antisocial actions (R. H. Smith & van Dijk, 2018), and that association seems to be reflected here, particularly in Study 2, given how COVID-19 infections can quickly spread to others. Furthermore, schadenfreude can be classified as a positive hedonic emotion, which, according to appraisal theory, has action tendencies to avoid further action and bask in the current positive feeling (Lazarus, 1991). This theoretical perspective could help explain why schadenfreude is negatively associated with intentions to take preventive action in our samples.

How might society avoid the damage caused by schadenfreude-related decreases in willingness to take preventive actions? Some research shows that engaging in prosocial actions, even through video games, helps decrease schadenfreude and increase empathy, which facilitates a more prosocial orientation to help others (Greitemeyer et al., 2010). As such, public health advocates may want to initiate empathy-focused strategic campaigns (Shen, 2010) that encourage acts of kindness when polarizing or disliked public figures announce illnesses that require widespread prevention action.

Unlike in previous research (Combs et al., 2009; Ouwerkerk et al., 2016), we did not find evidence that individuals from a political out-group (liberals) experienced greater schadenfreude than in-group members (conservatives). It could be that the two political figures studied here exhibited behaviors directly linked with the health outcomes (Limbaugh proudly smoked while Paul met with people throughout a time when social distancing was strongly encouraged). The perceived deservedness of their illnesses (van Dijk et al., 2005) may have overridden in-group/out-group divides found in previous schadenfreude research, suggesting potential boundary effects that deserve additional examination in future research. In addition, although Paul was elected as a Republican, he often espouses more libertarian viewpoints and may be viewed differently by liberal and conservative audiences, thereby not having as natural of an ideological out-group.

Table 1. Path Analysis Results.

Path	Limbaugh model (β)	Paul model (β)
Negative PSR → Schadenfreude	.68***	.55***
Positive PSR → Schadenfreude	.32***	.52***
Political ideology → Schadenfreude	.08	−.10
Negative PSR → Anxiety	−.16**	−.12*
Positive PSR → Anxiety	.66***	.71***
Political ideology → Anxiety	−.04	−.02
Negative PSR → Information seeking	.07	.25*
Positive PSR → Information seeking	.34**	.20
Schadenfreude → Information seeking	.24**	−.14
Anxiety → Information seeking	.23**	.08
Negative PSR → Interpersonal communication	−.09	.04
Positive PSR → Interpersonal communication	.36*	.35**
Schadenfreude → Interpersonal communication	.13	−.14
Anxiety → Interpersonal communication	.07	.08
Schadenfreude → Behavioral intentions	−.17*	−.47***
Anxiety → Behavioral intentions	.07	−.23**
Information seeking → Behavioral intentions	.08	.07
Interpersonal communication → Behavioral intentions	−.15	.02

Note. PSR = parasocial relationship.
*$p < .05$. **$p < .01$. ***$p < .001$.

It was surprising that positive PSR resulted in greater schadenfreude (even if the standardized beta values were lower than those for negative PSR and schadenfreude). One potential explanation comes from appraisal theory, which argues that personal relevance is a keystone to experiencing an emotion (Lazarus, 1991). Given that those with a positive PSR may have viewed the news of a politician's illness as more personally relevant than those without a strong virtual relationship, this could have increased the likelihood of feeling some sort of emotion in response. Clearly, however, additional research and replication with different politicians is needed to test these explanations.

Whereas negative PSR was a positive predictor of schadenfreude in both studies, positive PSR was a stronger predictor of schadenfreude in the Paul study than the Limbaugh study. This could also be due to Paul's more libertarian (than purely conservative) tendencies and less frequent vitriolic public speech about liberals than Limbaugh, which may explain why Paul had higher average positive PSR and lower average negative PSR than did Limbaugh. In addition, positive PSR was associated with increased interpersonal communication in both studies, suggesting that perceiving political figures as friends may encourage more conversations about their diagnoses. Meanwhile, negative PSR was associated with information seeking in the Paul study, suggesting that thinking of political figures as a "frenemy," someone you know

well but dislike, may encourage private behaviors as one can seek information without others knowing.

Furthermore, contrary to our predictions, interpersonal communication and information seeking were not significantly associated with health behavioral intentions. This could be a methodological issue as recall of interpersonal communication and information seeking may be inaccurate and more refined measures could be used in the future. Another possibility is that, when audiences feel they know a lot about a topic, they may be unmotivated to search for more information about it even if they are motivated to perform the behavior. It could also be that additional unmeasured factors, such as perceived vulnerability to the condition or the ways in which audience members desired to be like or dislike the politicians involved (Li et al., 2020), also would have predicted both communication and health behaviors. Future work should expand upon the initial explorations presented here to help assess how schadenfreude influences these outcomes.

Other limitations are that these surveys were cross-sectional; future work is needed that could manipulate schadenfreude levels or track behavior over time to help establish causality. Also, the first study launched a month after the initiating event. This time lag could affect how respondents recalled their responses to it. There is some debate about how best to measure schadenfreude (Marticotte & Arcand, 2017) and future work could explore alternative measurements.

Both public figures in our study were White males closely aligned with conservative or libertarian ideologies. Future work should also investigate how the public responds to women, people of color, and liberals (Francis & Zelaya, 2020). Moreover, the number of respondents who had heard about the diagnoses was small, limiting our statistical ability to detect smaller effect sizes. Future research would also benefit from expanding the partisan-based in- and out-group distinction to assess differences in emotions, attitudes, and behavioral responses based on other identities (e.g., race, gender) and by recruiting underrepresented participants.

In conclusion, our relationships with people, including politicians, can bring out base instincts, such as taking pleasure in their pain. Consuming media about a disliked political figure's illness is positively associated with schadenfreude, which is linked with decreased intentions to take preventive actions. Researchers and practitioners may want to craft public health campaigns aimed at mitigating or distracting people from their feelings of schadenfreude to better motivate individuals to take action in the face of health threats.

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ORCID iD

Jessica Gall Myrick https://orcid.org/0000-0001-9944-5138

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Author Biographies

Jessica Gall Myrick (PhD, University of North Carolina at Chapel Hill, 2013) is an associate professor of media studies in the Donald P. Bellisario College of Communications at Penn State University. Her research examines the role of emotions in helping to shape audience responses to messages about health, science, and the environment.

Jin Chen (MA, Northern Illinois University, 2019) is a doctoral student in the Donald P. Bellisario College of Communications at Penn State University. Her research interests lie in communication technologies, new media, and health communication. She is also a certified translator with translation publications in psychology, philosophy, and business.