

## **New Directions for Inoculation Theory and Affect Research**

*Josh Compton, Bobi Ivanov & Erin B. Hester*

### **Abstract**

*Recent advancements in inoculation theory—a theory of resistance to influence—have brought dynamic development, with implications on how media is processed, including acceptance or rejection of mediated arguments and behavioral responses to mediated content (e.g., further information-seeking). One of the most promising areas for such inoculation work is affect. In this essay, we propose future directions for affect and inoculation theory research, including affect and the analogic of inoculation theory, need for affect, timing of affect, and specific types of affect (e.g., fear, anger, happiness) and clarify unique possibilities with inoculation messaging and media.*

Inoculation theory—the classic theory of attitudinal resistance to persuasive influence (see Compton, 2013; McGuire, 1964)—is receiving a good deal of attention from scholars addressing theoretical development and empirical application. This resurgence is perhaps fueled by increased awareness of the amount and influence of mis- and disinformation in the media, which threatens health (van der Linden et al., 2020), trust in science and scientists (Compton et al., 2021), and more. Much of this work is applied inoculation research—to underexplored types of persuasive attacks, like sarcasm (Clyne et al., 2020) and covert advertising (Amazeen, 2020), and in underexplored contexts, like science communication (Compton et al., 2021a; Ivanov & Parker, 2021) and public relations (Compton et al., 2021b).

Along with this renewed attention has come dynamic advances in the theory of inoculation. One of the theoretical areas seeing the most development is affect, or the experience of feelings (Compton et al., 2022). This area of inoculation research is forming a foundation for promising new work, and at the same time, drawing attention to dynamic relationships among affect, inoculation, and emerging contexts. Ivanov and colleagues (2018) argued that “the potential of inoculation-based strategies may be ‘boundless’...in the rapidly evolving media environment” (p. 272), and scholars have drawn connections between

inoculation and media settings (Parker et al., 2022). We contend that this is particularly the case with affect and inoculation theory. We consider some of these future possibilities in this essay.

### **Inoculation Theory: The Basics**

Inoculation theory explains how a position (e.g., an attitude, a belief) can be made resistant to influence in ways similar to how a body can be made immune to viruses—through exposure to weakened forms of the stronger attack (Compton, 2013; McGuire, 1964). The idea is that exposure to weakened forms of stronger attacks—like raised and refuted counterarguments, or two-sided messages—generates threat, or the recognition that an existing position is vulnerable to change (see Compton, 2020). The perception of threat motivates (Banas & Richards, 2017) more thinking (McGuire, 1964), talking (Compton & Pfau, 2009), and other means of strengthening the vulnerable position (Compton, 2013). Decades of research have established inoculation as an effective applied messaging strategy (see Ivanov et al., 2020b) in the contexts of politics (see Compton & Ivanov, 2013, for a review), health (see Compton et al., 2016, for a review), public relations (see Compton et al., 2021b, for a review), and more.

For decades, the process(es) of inoculation were largely considered cognitive (Compton et al., 2022), even though one of the core components of inoculation—threat—has clear implications for emotional responses (Compton, 2009, 2021). More recently, scholars have turned their attention to the affective dimensions of inoculation theory (see Compton et al., 2022, for a review), revealing that inoculation messages can elicit a number of discrete emotions, including anger (Miller et al., 2013; Pfau et al., 2001), happiness (Pfau et al., 2001), and fear (Pfau et al., 2009). Studies have also revealed that anger boosts resistance (Pfau et al., 2001, 2009) whereas happiness dampens it (Pfau et al., 2009). Researchers have also looked at emotions after encountering an “attack” message (i.e., a message that runs counter to one’s attitudes or beliefs), finding that fear, sadness, and anger elicited by inoculation treatment messages persists even after an attack (Ivanov et al., 2020b). Other inoculation and affect work has traced how affective-based inoculation messages can influence associative networks—the makeup of attitudes (Pfau et al., 2005, 2009) and how matching affect variables between the inoculation message and the attack message can enhance the efficacy of

inoculation messages (Compton & Pfau, 2008; Ivanov et al., 2009, 2012; Nabi, 2003). More recent inoculation and affect research has also explored how inoculation can protect against types of affect, including decreases in pride (Pfau et al., 2008), anger (Richards & Banas, 2015; Richards et al., 2016, 2020) and anxiety (Jackson et al., 2017) and increases of fear (Ivanov et al., 2016) and jealousy (Sutton, 2011). Finally, some inoculation and affect research has looked at affective counterarguing—emotional refutations of counterarguments. Findings have indicated that affective counterarguments are comparatively less present than cognitive counterarguments; however, when they are present, they are strong (Pfau et al., 2009; Wigley & Pfau, 2010).

Despite much progress in our understanding of inoculation theory and affect (Compton et al., 2022), there remains much to learn, including how affect functions with inoculation and media. We outline some areas of future work here that we argue are particularly promising, especially in the context of increasing attention to misinformation in the media (see Compton et al., 2021a).

## **New Directions for Inoculation and Affect Research**

### *Affect and the Analogy*

With the exception of a brief reference to potential connections between emotions affecting resistance to viruses and emotions affecting resistance to persuasion (Compton, 2013), there has not been much attention directed toward how the analogic of inoculation theory functions—or not—in discussions of affect and inoculation theory. We encourage continued study of both sides of the analogy—inoculation against viruses and inoculation against persuasion—in future affect and inoculation theory research.

One area seems particularly promising in such research: therapeutic inoculation. Unlike the more conventional prophylactic inoculation approach (i.e., preemptive protection against persuasion), therapeutic inoculation is a reactive approach—administering inoculation treatments to those who already hold a different opinion (belief, attitude, etc.) from what is advocated in the inoculation message (see Compton, 2020). Indeed, empirical research has demonstrated the effectiveness of therapeutic inoculation as a strategy for shifting opposing beliefs in the direction of the advocated position (Ivanov et al., 2017). Perhaps more

important, Ivanov and colleagues (2017) discovered “inoculation is capable of protecting these persuasive gains” when eventually faced with a subsequent attack (p. 120).

Since recipients would be interpreting arguments as either supportive or oppositional to their existing attitudes and beliefs, it seems likely that recipients of inoculation messages functioning therapeutically have different affect responses and processes than those functioning prophylactically. With the former—therapeutic inoculation, or inoculation messages challenging an existing belief—perhaps we could anticipate more anger because the information contradicts the individual’s differing opinion. With the latter—prophylactic inoculation, or inoculation messages supporting an existing belief—maybe there is a combination of both fear and anger (Parker et al., in press). Anger may be experienced in response to the unveiling of inadequately structured counterarguments that may elicit irritation due to their poor structure. It may also represent a natural or learned emotional reaction to the realization—or confirmation—of the existence of oppositional arguments. Fear, on the other hand, may represent an emotional expression to the possibility of encountering challenges to the currently held positions. Of course, these are empirical questions. We look forward to research that looks into these, and related, areas of how extensions of the inoculation analogy to the processes of resistance can inform both research and application of inoculation theory and affect, with particular attention to misinformation in the media—an area that likely uses and elicits emotional strategies.

### *Timing of Affect*

A recurring question about affect in inoculation is the issue of when affect influences inoculation-conferred resistance to influence (see Compton, 2013). The timing of affect in inoculation seems particularly relevant to fast-paced, real-time mediated information. When, then, might affect play a role in resistance? Before receiving the inoculation message (e.g., mood)? During? After? All of the above? What about affect elicited at the time of the stronger, subsequent attack? Or after the attack? Whereas the majority of research has investigated the design of messages and catalysts responsible for eliciting the inoculation process, considerably less attention has been paid to the experience of individuals

after they have encountered a persuasive attack (c.f., Ivanov et al., 2020a).

To further explore the impacts of affect on inoculation, researchers should measure affect at different phases of inoculation, following the lead of Pfau and colleagues (2009). Additionally, timing may also influence the relationship between affect and recall. Nabi (1999) proposed that fear, anger, disgust, sadness, or guilt makes it more likely that message recipients will recall reassuring information about that emotion and will do so with greater accuracy. This proposition should be tested in an inoculation context, where recall of refutations is purportedly connected with resistance (i.e., those inoculated are able to bring to mind refutational content when processing the attack message, in addition to novel refutational content). Experiences of affect during reception of the attack message, then, might differ based on whether the arguments in the attack message are the same or different from those mentioned in the inoculation message.

### *Discrete Emotions*

Scholars have paid increased attention to communication and affect, but they predominantly conceptualized the emotional experience as discrete, meaning that emotions are qualitatively distinct and differentiated by their unique pattern of responses (Nabi, 2002). In inoculation research specifically, the focus has been centered on designing messages that elicit one of two discrete emotions, anger or happiness. Although both have been found to influence processes of resistance, we wonder if other discrete emotions have a similar or more pronounced message effect (see Compton, 2013). In addition, scholars should continue to take a closer look at anger and happiness. We begin with those two emotions before considering some less understood emotions.

### *Anger.*

We probably know more about anger than any other emotion associated with inoculation (Compton, 2013). Anger is an emotional response to encountering an obstacle and is associated with approach or attack behaviors aimed at the source of interference (Lazarus, 1991). Stated differently, according to the cognitive-functional model of

discrete emotions: “To experience anger, receivers must perceive a message to suggest a barrier or an affront that they face or is faced by someone with whom they empathize” (Nabi, 1999, p. 307). When message recipients think the rest of the message will help them achieve the goal, they are more likely to engage in central processing of the rest of the message. Inoculation messages can make people angry whether as part of a specific response to threat (Pfau et al., 2001), as an emotion elicited by the entire treatment message (e.g., Ivanov et al., 2009), or something(s) else. Specifically, the forewarning component of a message—designed to explicitly warn individuals of their vulnerability to impending persuasive attacks—could unleash such motivation.

Research of inoculation theory and psychological reactance theory—the idea that perceived threats to freedom elicit anger and negative thoughts toward the perceived restrictor (see Brehm, 1966)—also sheds light on how inoculation theory works with and against reactance. Inoculation treatments can characterize opposing messages as freedom-restricting (Miller et al., 2013) or can help to alleviate reactance against an inoculation treatment’s aim by reminding recipients that they have the freedom to choose (e.g., Richards & Banas, 2015; Richards et al., 2016, 2020).

More research should explore the relationship between anger and other variables, such as self-efficacy (Pfau et al., 2001; and see Dillard & Nabi, 2006). Previous work has considered a relationship between threat and anger, but some evidence suggests anger is more a product of involvement than threat (Pfau et al., 2001). Scholars should also heed Nabi’s (2003) advice to explore the targets of different emotions, including targets of anger. Dillard and Nabi (2006) argue, “Whether an emotion enhances or inhibits persuasion depends on its relationship with the target of evaluation” (p. 130). If anger is directed toward the source of the inoculation message, resistance to influence is likely lessened (see Richards & Banas, 2015); if anger is directed toward the source of the attack message, resistance is likely strengthened (see Miller et al., 2013). How might other targets of anger, beyond sources of messages, affect resistance to influence? For example, would anger toward the media, in general, influence resistance to mediated messages?

### Happiness.

Scholars have called for more attention to positive affect in general (Nabi, 2002), and inoculation in particular (e.g., Compton & Pfau, 2005; Nabi, 2003). Happiness describes an emotional response to making reasonable progress toward one's goals and is associated with behaviors that sustain or savor such contentment (Lazarus, 1991). Ivanov et al. (2020a) built on earlier research pertaining to happiness (e.g., Pfau et al., 2001) and found further evidence for reduced happiness in inoculated individuals. The authors suggest that lack of happiness and increased anger contribute to the persistent effectiveness of inoculation-based resistance. Based on what we do know from affect, inoculation, and happiness studies (e.g., Ivanov et al., 2020a; Pfau et al., 2001), including that happiness lessens resistance (Pfau et al., 2001), and from work in other persuasion studies (e.g., Dillard & Peck, 2001; Nabi, 2002), including that happiness is associated with lack of depth of information processing and shorter-term, less stable persuasion effects (Nabi, 2002), continued inquiry is needed to better understand how and precisely when happiness influences the process of resistance.

### Fear.

Fear is often associated with the tendency to protect oneself from concrete and sudden physical harm by avoiding or escaping the threat (Lazarus, 1991). Yet, Pfau (1995) initially argued that the inoculation-generated threat should not be confused with, nor equated to, threat as a dimension of fear appeals (see Compton, 2009). But perhaps fear plays a more pivotal role in inoculation than previously thought. Consider the perspective of the extended parallel process model (EPPM; Witte, 1992, 1994) which explains how fear appeals motivate recipients to protect themselves from a certain danger. Similarly, inoculation explains how messages motivate recipients to defend their attitudes against counterattitudinal challenges.

According to the EPPM, for a fear appeal to be successful, a message must generate perceived threat (i.e., susceptibility and severity) and perceived efficacy (i.e., response efficacy and self-efficacy). When individuals experience fear and feel prepared to cope, they are motivated to attend to the message and follow recommendations protecting against the threat (Witte, 1992, 1994). Do inoculation messages function

similarly? We think they do. Inoculation messages generate perceptions of threat by (a) explicitly forewarning individuals that their attitudes are vulnerable to future persuasive attacks (i.e., susceptibility; Compton & Ivanov, 2012; McGuire & Papageorgis, 1962) and (b) implicitly highlighting the consequences of being unprepared to defend against sample counterattitudinal arguments (i.e., severity; Compton & Ivanov, 2012; Ivanov et al., 2016). Additionally, inoculation messages generate efficacy by (a) demonstrating how to effectively fend off persuasive attacks (i.e., response efficacy) while (b) offering guided practice in defending attitudes through counterarguing (i.e., self-efficacy; Pfau et al., 2001, 2009). Empirical evidence is needed to better understand these parallel mechanisms. As such, future investigations could examine how levels of aroused fear, as well as perceptions of susceptibility, severity, self-efficacy, and response efficacy, fluctuate during exposure to an inoculation message.

### Pride.

Pride occurs in response to an achievement and tends to result in behaviors that point publicly to the source of achievement—whether that is oneself or someone else (Lazarus, 1991). As a discrete emotion, pride has received limited attention in inoculation-affect research. Pfau and colleagues (2008) successfully inoculated against pride slippage in the context of television coverage of the war in Iraq. Wigley and Pfau (2010) designed some messages to elicit pride as part of their affective-positive inoculation treatment messages. Otherwise, pride has been largely neglected as an emotion for inoculation scholarship, and therefore represents an opportunity for those interested in affect and resistance. We anticipate several media-related opportunities for this work, including how watching international sports competitions (e.g., Olympics) can affect pride (Billings et al., 2013), how pride plays a role in reactions to corporate social responsibility perceptions (He et al., 2022), and the use of pride appeals in political campaigns (Ridout & Searles, 2011).

### Sadness.

According to Lazarus (1991), sadness is aroused when an individual appraises a personal loss with distinct consequences for oneself. Unlike other emotions with active behavioral tendencies,



sadness is accompanied by a passive withdrawal into oneself as a means to recover (Frijda, 1986). When unintentionally evoked, sadness has been positively associated with attitude change (Dillard & Peck, 2001; Dillard et al., 1996). Should inoculation messages fail, the unintended emotional outcome could be sadness as individuals realize they are not prepared for, nor capable of, protecting their current attitudes. Indeed, findings from Ivanov et al. (2020a) corroborated that, in comparison to those receiving a control message, inoculated individuals indicated greater levels of sadness after receiving the persuasive attack message.

As Burgoon and colleagues (1976) have argued, and their findings confirmed, when individuals were told via an inoculation message that they were almost certain to face counterattitudinal challenges, they resigned to having their attitudes assailed and failed to successfully defend them from persuasive attacks. Although the authors did not assess the emotional state of individuals, it is highly plausible that the inoculation message—intended to motivate and inspire defense preparation—may have instead generated sadness by making the inevitability of the attack, and the presumed “loss” of attitudinal resistance, salient to message recipients. Consistent with later research (Dillard & Peck, 2001; Dillard et al., 1996), the inoculation message attesting to the inevitability of the attack generated greater negative attitude change than its counterpart attesting to the uncertainty of a forthcoming attack (Burgoon et al., 1976; cf. Ivanov et al., 2013). To the extent that an individual estimates an “irrevocable loss” (Nabi, 1999, p. 307), it is reasonable to suggest that sadness played a role. Such theorizing should be further tested in future affect and inoculation research, including the possibility that sadness weakens motivation to counterargue.

### Disgust.

Disgust is a negative emotion aroused by organically or psychologically spoiled ideas or objects (Lazarus, 1991; Rozin et al., 1993), a product of “a noxious object or idea” (Nabi, 1999, p. 307). Disgusted individuals are generally motivated to turn away from, or to remove, the object of disgust (Nabi, 2002). In the persuasion literature, message-induced disgust has been shown to negatively correlate with attitude change. Nabi’s (1998) findings showed that message-induced disgust toward animal experimentation reduced the favorability of animal

experimentation. Building on such findings, an inoculation message could elicit disgust toward the outcome or position purported by the attack message or message source, thereby bolstering resistance. There is reason to believe that this approach would work. In a follow up inoculation study, Nabi (2003) constructed inoculation messages that provided “graphic images of monkeys being inflicted with head injuries as well as the debilitating physical consequences of those injuries” (2003, p. 2006). As expected, the messages generated negative affect; however, disgust, although measured, was confounded with multiple other discrete emotions such as hate, anger, anxiety, fear, guilt, and surprise. Future studies should attempt to measure the effectiveness of disgust-eliciting inoculation messages by isolating this discrete emotion.

### Guilt.

Although guilt has received some attention in persuasion (O’Keefe, 2002), it has received limited attention in inoculation scholarship (Compton & Pfau, 2008). Guilt is felt in response to having personally transgressed a moral imperative and often leads individuals to atone or make reparations (Lazarus, 1991). The level of emotional intensity may produce different outcomes and coping behaviors (Nabi, 2002). What should be the level of intensity of guilt for optimum resistance? At moderate levels, guilt may assist in the attainment of persuasive goals (Coulter & Pinto, 1995); however, at high levels guilt may arouse high levels of anger that may thwart the attainment of the same persuasive goals (Coulter & Pinto, 1995; Pinto & Priest, 1991).

Nabi (1999) noted that message-induced guilt (as well as fear and disgust) can lead to either more or less motivation to centrally process the rest of a message, depending on how the receivers interpret the value of the rest of the message. If guilt-ridden individuals expect the remainder of the message will enhance or prolong the experience of guilt, then they are less likely to carefully process the content of the message in an effort to downregulate this negative emotion. On the other hand, should guilt-ridden individuals expect the message will provide them with information that may alleviate guilt and lead to reparation, they are more likely to carefully process the message. If an inoculation message were to induce guilt, then, perhaps guilt would affect the process of resistance by influencing how people process the inoculation message content.

### Surprise.

As a discrete emotion, surprise occurs in response to sudden and unexpected occurrences and directs individuals to orient their attention and focus on the novelty (Cowen & Keltner, 2017). Because resistance is thought to depend on preparedness for an attack on a position, surprise logically plays a role in inoculation-conferred resistance to influence. However, to date, it has received even less attention in inoculation-affect research than guilt or disgust. Ivanov and colleagues (2020a) have been among the first to assess surprise in the context of inoculation-conferred resistance. The authors predicted that inoculated individuals would be less surprised after encountering an attack than those in the control condition. In other words, because they had been directly forewarned that the persuasive attack might be coming, they would be less surprised when they actually encountered it. However, much to their surprise, inoculated individuals reported greater post-attack surprise than those in the control condition (Ivanov et al., 2020a).

The researchers offered a few explanations for the unexpected findings, which center on the idea that an expectancy violation may have contributed to heightened levels of surprise in inoculated individuals. First, the authors turned to early findings from Burgoon and Chase (1973) in which mismatching language intensity between the inoculation treatment and attack message influenced the effectiveness of inoculation. It was possible, then, the authors argued, that the attack argument was stronger than the participants expected, therefore resulting in surprise. Second, the authors proposed that the inconsistency between cognitive-based inoculation message (i.e., grounded in logic) and affective-based attack message (i.e., emotionally-charged content such as video footage of Westboro Baptist Church members thanking “God for dead soldiers”) may have also represented an expectancy violation. Consequently, the mismatch in expectations could have increased expressions of surprise (Ivanov et al., 2020a). Nevertheless, this unexpected finding suggests that future research should uncover how and when surprise contributes (or detracts from) resistance.

### Boredom.

Future affect and inoculation theory research should also explore the counterpart of surprise: boredom. Evidence supports the

conceptualization of boredom as a discrete emotion, despite its similarities with other emotions like sadness, frustration, guilt, and disappointment (see van Tilburg & Igou, 2017). Boredom describes the experience of wanting to engage in a satisfying activity but being unable to do so; as a result, it is often associated with “attentional disengagement from the environment” and seeking out alternative stimuli (Danckert, 2018, p. 2). Preliminary evidence has indicated that, as a preventive strategy, inoculation may be effective in protecting peoples’ interest and motivation when faced with monotonous or repetitive tasks (e.g., Dimmock et al., 2016).

Compton (2019) has offered a theoretical case for how inoculation theory-informed messages could be crafted to decrease the negative effects of boredom in the workplace, including burnout and low retention. For example, inoculation messages could be used to either prevent the arousal of boredom or simply protect employees’ beliefs that their work is meaningful and challenging. However, his predictions have not yet been empirically tested. Additionally, we encourage inoculation theory and affect research that looks at boredom as part of the process of resistance. That is, in addition to inoculating against boredom, researchers should see if it is possible to inoculate with boredom, e.g., as part of the way of weakening a counterargument. An impending attack on a position could be framed as boring or uninteresting, which might lessen the persuasiveness of an argument.

### *Narratives and Affect*

Narratives play a prominent role in people’s media diet, whether through journalistic accounts of local news, movies and television dramas, literature, or stories passed along social media networks. However, narratives remain underexplored in the context of inoculation (Compton & Mason, 2020). The inherent argumentative structure of two-sided refutational messages (i.e., weakened counterargument followed by strong refutation) has led most researchers to use factual evidence (e.g., Pfau et al., 2004), logic-based reasoning (e.g., Cook et al., 2017), or a combination of the two (e.g., Banas & Miller, 2013) to refute counterarguments. While some inoculation messages have used anecdotal evidence (e.g., Pfau et al., 2001), narrative as a primary message form has not yet been thoroughly studied in inoculation research.

There is reason to believe that narratives could be used to elicit more affect during the process of resistance (see Oatley & Gholamain, 1997). According to Pence (2004), “Emotions are a primary feature of our reaction to, and interaction with, narrative” (p. 273). Consequently, narratives have been found to generate more emotion than non-narrative content (e.g., argument-based content; Krakow et al., 2018), and that greater levels of emotions (positive and negative) are connected with more negative attitudes toward the advocated position (Murphy et al., 2013).

Much of the affective reactions to narratives is attributed to the narrative’s transportation effect, “a convergent process, where all mental systems and capacities become focused on events in the narrative” (Green & Brock, 2000, p. 701). Individuals who are engaged in the narrative become emotionally involved and affected by the narrative (Pence, 2004). As a result, any persuasive messages embedded in the narrative can easily “get under the radar” (Dal Cin et al., 2004, p. 187) as they are “often implied as opposed to stated explicitly” (Dal Cin et al., 2004, p. 178). Thus, persuasive messages presented in a narrative form can be very effective in generating attitude change because their structure may impede the forewarning of counterattitudinal pressures (Dal Cin et al., 2004) and their transportation effect may suppress the counterarguing process associated with resistance (Green & Brock, 2000; Slater & Rouner, 2002).

Should narratives suppress threat (in a form of a forewarning) and counterarguing (by depleting processing capacity via the transportation effect), they may have an impact on the inoculation-generated process of resistance, possibly through elicited affect. Along with others (Compton & Mason, 2020), we contend that the narratives can have an impact on this process via affect in two important ways: as attacks (more persuasive because of the reasons outlined above) and as protection messages (inoculating with or against narrative persuasiveness). For example, Banas and Miller (2013) showed how inoculation messaging could be used to blunt the effectiveness of mediated conspiracy theories by using an illogical and emotionally charged film as the persuasive attack. Their findings highlighted the effectiveness of inoculating against a unique and potentially destructive type of narrative.

In addition to the impact of affect in narratives used as persuasive vehicles, narrative-elicited affect may influence resistance as

well. As Oatley and colleagues (Oatley, 2002; Oatley & Gholamain, 1997) have discussed, readers of narratives start identifying with the characters of the narrative. Dal Cin and colleagues (2004) suggested the emotional connections with the characters of the narratives can be exploited to strengthen the affective components of attitudes, which should increase attitudinal resistance (Fuegen & Brehm, 2004). As they suggested:

If we integrate positive or negative emotions elicited by a narrative into our associative networks, it seems plausible that implicit attitude change might occur. We have already suggested that identification with story characters leads to positive associations with particular beliefs. It seems plausible that on a purely implicit level, these positive responses may become integrated in the network of associations one already has regarding these beliefs. (Dal Cin et al., 2004, p. 188)

If Dal Cin et al.'s (2004) reasoning is confirmed, inoculation messages used in a narrative form may be successful in generating resistance in part by boosting attitudinal resistance using affect. Future inoculation studies should investigate the links among affect, narratives, and inoculation-conferred resistance (see also Compton & Ivanov, 2013; Compton & Mason, 2020).

### *Need for Affect*

Inoculation scholarship has not yet accounted for individual differences in the motivation to pursue affect. Maio and Esses (2001) stated that individuals have different levels of need for affect (NFA), which they defined as “the general motivation of people to approach or avoid situations and activities that are emotion inducing for themselves and others” (p. 585). Individuals with a strong disposition to approach emotions (i.e., high in NFA) are more likely to engage with stimuli that elicit affective responses. Maio and Esses (2001) further suggested that individuals high in NFA might be more likely to allow emotions to influence and shape their attitudes, at least partly by having developed stronger cognitive associations with their emotions. Indeed, media effects research has shown that NFA facilitates narrative persuasion, such that individuals high in NFA have a stronger experience of transportation

when processing the emotional content of fictional narratives (Appel & Richter, 2010).

Based on the above information, affect-based inoculation messages may have significantly more pronounced impact on individuals with high, rather than low, NFA. Attack messages, however, may also have a more pronounced effect on individuals high in NFA. That is, the same variation in NFA that might make recipients more receptive to inoculation messages (e.g., experiencing more threat from threatening content, or experiencing more anger in response to counterattitudinal content) might also make them more responsive to messages that attempt to challenge their beliefs (i.e., the “attack” messages) when either type of message (inoculation or attack) uses affective content. The pertinent question for inoculation scholarship, then, is whether NFA moderates the effectiveness of inoculation and attack messages, and if so, how. Future inoculation studies should empirically test the dynamic of the relationship among inoculation messages, attack messages, and NFA.

## **Conclusions**

Affect is one of the theoretical areas seeing the most development during the recent resurgence of inoculation theory development and application (Compton et al., 2022). This area of inoculation research has formed a foundation for promising new work. In this review, we have proposed some future possibilities for affect and inoculation theory research, including affect and the analogic of inoculation theory, need for affect, timing of affect, and specific types of affect. Of course, what we have proposed here is not a complete list. We hope that continuing research in affect and inoculation theory will explore these and other opportunities. We see particular relevance for this theory development and application in media contexts. Several years ago, after reviewing extant research in media and emotions, Wirth and Schramm (2005) concluded: “Clearly, research on media and emotion is making satisfactory progress” (p. 25). The same can be said, we argue, about research on media and emotion and inoculation theory. We hope that our review helps this work to grow and progress even further.

## References

- Amazeen, M. A. (2020). Resisting covert persuasion in digital news: Comparing inoculation and reactance in the processing of native advertising disclosures and in article engagement intentions. *Journalism & Mass Communication Quarterly*, 1077699020952131. <https://doi.org/10.1177/1077699020952131>
- Appel, M., & Richter, T. (2010). Transportation and need for affect in narrative persuasion: A mediated moderation model. *Media Psychology*, 13(2), 101–135. <https://doi.org/10.1080/15213261003799847>
- Banas, J. A., & Miller, G. (2013). Inducing resistance to conspiracy theory propaganda: Testing inoculation and metainoculation strategies. *Human Communication Research*, 39(2), 184–207. <https://doi.org/10.1111/hcre.12000>
- Banas, J., & Richards, A. S. (2017). Apprehension or motivation to defend attitudes? Exploring the underlying threat mechanism in inoculation-induced resistance to persuasion. *Communication Monographs*, 84(2), 164–178. <https://doi.org/10.1080/03637751.2017.1307999>
- Billings, A. C., Brown, N. A., Brown, K. A., Guoqing, Leeman, M. A., Ličen, S., Novak, D. R., & Rowe, D. (2013). From pride to smugness and the nationalism between: Olympic media consumption effects on nationalism across the globe. *Mass Communication and Society*, 16(6), 910-932. <https://doi.org/10.1080/15205436.2013.822519>
- Brehm, J. W. (1966). *A theory of psychological reactance*. New York, NY: Academic Press.



- Burgoon, M., Burgoon, J. K., Riess, M., Butler, J., Montgomery, C. L., Stinnett, W. D., Miller, M., Long, M., Vaughn, D., & Caine, B. (1976). Propensity of persuasive attack and intensity of pretreatment messages as predictors of resistance to persuasion. *Journal of Psychology*, 92(1), 123-129.  
<https://doi.org/10.1080/00223980.1976.9921345>
- Burgoon, M., & Chase, L. J. (1973). The effects of differential linguistic patterns in messages attempting to induce resistance to persuasion. *Speech Monographs*, 40(1), 1-7.  
<https://doi.org/10.1080/03637757309375774>
- Clyne, L., Fellers, M., & Richards, A. S. (2020). Metacognitive inoculation reduces the persuasiveness of sarcastic attack messages. *Communication Reports*, 33(2), 68-81.  
<https://doi.org/10.1080/08934215.2020.1755876>
- Compton, J. (2009). Threat explication: What we know and don't yet know about a key component of inoculation theory. *STAM Journal*, 39, 1-18.
- Compton, J. (2013). Inoculation theory. In J. P. Dillard & L. Shen (Eds.), *The Sage handbook of persuasion: Developments in theory and practice* (2<sup>nd</sup> ed.; pp. 220-236). Sage.  
<http://dx.doi.org/10.4135/9781452218410.n14>
- Compton, J. (2019). A vaccine for boredom? Considering inoculation theory as a messaging strategy to better engage, and retain, a millennial workforce. In S. A. Smith (Ed.), *Recruitment, retention, and engagement of a millennial workforce* (pp. 163-176). Lexington Books.
- Compton, J. (2020). Prophylactic versus therapeutic inoculation treatments for resistance to influence. *Communication Theory*, 30(3), 330-343. <https://doi.org/10.1093/ct/qtz004>
- Compton, J. (2021). Threat and/in inoculation theory. *International Journal of Communication* 15, 1-13.  
<https://ijoc.org/index.php/ijoc/article/view/17634>

- Compton, J., & Ivanov, B. (2012). Untangling threat during inoculation-conferred resistance to influence. *Communication Reports*, 25(1), 1-13. <https://doi.org/10.1080/08934215.2012.661018>
- Compton, J., & Ivanov, B. (2013). Vaccinating voters: Surveying political campaign inoculation scholarship. *Annals of the International Communication Association*, 37(1), 251-283. <https://doi.org/10.1080/23808985.2013.11679152>
- Compton, J., Ivanov, B., & Hester, E. (2022). Inoculation theory and affect. *International Journal of Communication*, 16, 3470-3483. <https://ijoc.org/index.php/ijoc/article/view/19094/3828>
- Compton, J., Jackson, B., & Dimmock, J. A. (2016). Persuading others to avoid persuasion: Inoculation theory and resistant health attitudes. *Frontiers in Psychology*, 7(122). <https://doi.org/10.3389/fpsyg.2016.00122>
- Compton, J., & Mason, A. (2020). Narrative and the inoculation theory of resistance to influence. In S. G. Schartel Dunn & G. S. Nisbett (Eds.), *Innovations and implications of persuasive narrative* (pp. 23–42). Peter Lang. <https://doi.org/10.3726/b17049>
- Compton, J., & Pfau, M. (2005). Inoculation theory of resistance to influence at maturity: Recent progress in theory development and application and suggestions for future research. *Annals of the International Communication Association*, 29(1), 97-146. <https://doi.org/10.1080/23808985.2005.11679045>
- Compton, J., & Pfau, M. (2008). Inoculating against pro-plagiarism justifications: Rational and affective strategies. *Journal of Applied Communication Research*, 36(1), 98-119. <https://doi.org/10.1080/00909880701799329>
- Compton, J., & Pfau, M. (2009). Spreading inoculation: Inoculation, resistance to influence, and word-of-mouth communication. *Communication Theory*, 19(1), 9-28. <https://doi.org/10.1111/j.1468-2885.2008.01330.x>

- Compton, J., van der Linden, S., Cook, J., & Basol, M. (2021a). Inoculation theory in the post-truth era: Extant findings and new frontiers for contested science, misinformation, and conspiracy theories. *Social and Personality Psychology Compass* (15), 1-16. <https://doi.org/10.1111/spc3.12602>
- Compton, J., Wigley, S., & Samoilenko, S. (2021b). Inoculation theory and public relations. *Public Relations Review* 47(5). <https://doi.org/10.1016/j.pubrev.2021.102116>
- Cook, J., Lewandowsky, S., & Ecker, U. K. H. (2017). Neutralizing misinformation through inoculation: Exposing misleading argumentation techniques reduces their influence. *PLOS ONE* 12(5). <https://doi.org/10.1371/journal.pone.0175799>
- Coulter, R. H., & Pinto, M. B. (1995). Guilt appeals in advertising: What are their effects? *Journal of Applied Psychology*, 80, 697-705. <https://doi.org/10.1037/0021-9010.80.6.697>
- Cowen, A. S., & Keltner, D. (2017). Self-report captures 27 distinct categories of emotion bridged by continuous gradients. *Proceedings of the National Academy of Sciences of the United States of America*, 114(38), E7900–E7909. <https://doi.org/10.1073/pnas.1702247114>
- Dal Cin, S., Zanna, M. P., & Fong, G. T. (2004). Narrative persuasion and overcoming resistance. In E. S. Knowles & J. A. Linn (Eds.), *Resistance and persuasion* (pp. 175–191). Lawrence Erlbaum.
- Danckert, J. (2018). Special topic introduction: Understanding engagement: Mind-wandering, boredom and attention. *Experimental Brain Research*, 236(9), 2447–2449. <https://doi.org/10.1007/s00221-017-4914-7>
- Dillard, J. P., & Nabi, R. L. (2006). The persuasive influence of emotion in cancer prevention and detection messages. *Journal of Communication*, 56(1), 123-139. <https://doi.org/10.1111/j.1460-2466.2006.00286.x>

- Dillard, J. P., & Peck, E. (2001). Persuasion and the structure of affect. Dual systems and discrete emotions as complementary models. *Human Communication Research*, 27(1), 38-68. <https://doi.org/10.1111/j.1468-2958.2001.tb00775.x>
- Dillard, J. P., Plotnick, C. A., Godbold, L.C., Freimuth, V. S., & Edgar, T. (1996). The multiple affective outcomes of AIDS PSAs: Fear appeals do more than scare people. *Communication Research*, 23(1), 44-72. <https://doi.org/10.1177/009365096023001002>
- Dimmock, J. A., Gagné, M., Proud, L., Howle, T. C., Rebar, A. L., & Jackson, B. (2016). An exercise in resistance: Inoculation messaging as a strategy for protecting motivation during a monotonous and controlling exercise class. *Journal of Sport & Exercise Psychology*, 38(6), 567–578. <https://doi.org/10.1123/jsep.2016-0146>
- Frijda, N. H. (1986). *The emotions*. Cambridge University Press.
- Fuegen, K., & Brehm, J. W. (2004). The intensity of affect and resistance to social influence. In E. S. Knowles & J. A. Linn (Eds.), *Resistance and persuasion* (pp. 39–63). Lawrence Erlbaum.
- Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology*, 79(5), 701-721. <https://doi.org/10.1037/0022-3514.79.5.701>
- He, Z., Liu, S., Ferns, B.H. and Countryman, C.C. (2022), "Pride or empathy? Exploring effective CSR communication strategies on social media", *International Journal of Contemporary Hospitality Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJCHM-09-2021-1182>
- Ivanov, B. (2017). Inoculation theory applied in health and risk messaging. In *Oxford research encyclopedia of communication* (pp. 278-304). Oxford University Press. <https://doi.org/10.1093/acrefore/9780190228613.013.254>

- Ivanov, B., Burns, W. J., Sellnow, T. L., Sayers, E. L. P., Veil, S. R., & Mayorga, M. W. (2016). Using an inoculation message approach to promote public confidence in protective agencies. *Journal of Applied Communication Research, 44*(4), 381-398.  
<https://doi.org/10.1080/00909882.2016.1225165>
- Ivanov, B., Hester, E. B., Martin, J. C., Silberman, W., Slone, A. R., Goatley-Soan, S., Geegan, S., Parker, K. A., Herrington, T. F., Riker, S., & Anderson, A. (2020a). Persistence of emotion in the process of inoculation: experiencing post-attack threat, fear, anger, happiness, sadness, and surprise. *Communication Quarterly, 68*(5), 560–582.  
<https://doi.org/10.1080/01463373.2020.1850492>
- Ivanov, B., & Parker, K. A. (2021). Science communication and inoculation: Mitigating the effects of the coronavirus outbreak. In H. D. O’Hair & M. J. O’Hair (Eds.), *Communicating science in times of crisis: COVID-19 pandemic* (pp. 302–320). Wiley-Blackwell.  
<https://doi.org/10.1002/9781119751809.ch13>
- Ivanov, B., Parker, K. A., & Dillingham, L. L. (2018). Inoculation as a risk and health communication strategy in an evolving media environment. In H. D. O’Hair (Ed.), *Risk and health communication in an evolving media environment* (pp. 249-277), Routledge.  
<https://doi.org/10.4324/9781315168821-13>
- Ivanov, B., Parker, K. A., & Dillingham, L. L. (2020b). Inoculation theory as a strategic tool. In H. D. O’Hair and M. J. O’Hair (Eds.), *Handbook of applied communication research* (Vol. 1, pp. 13-28). Wiley.
- Ivanov, B., Parker, K. A., Dillingham, L. L., Petrun, E. L., Grant, L. F., & Geegan, S. (2013). Enhancing inoculation: Examining the relationships among attack certainty, threat, and resistance. *International Journal of Neuroscience and Behavioral Science, 1*(2), 13-23. <https://doi.org/10.13189/ijnbs.2013.010201>

- Ivanov, B., Parker, K. A., & Pfau, M. (2012). The interaction effect of attitude base and multiple attacks on the effectiveness of inoculation. *Communication Research Reports*, 29(1), 1–11. <https://doi.org/10.1080/08824096.2011.616789>
- Ivanov, B., Pfau, M., & Parker, K. A. (2009). The attitude base as a moderator of the effectiveness of inoculation strategy. *Communication Monographs*, 76, 47-72. <https://doi.org/10.1080/03637750802682471>
- Ivanov, B., Rains, S. A., Geegan, S. A., Vos, S. C., Haarstad, N. D., & Parker, K. A. (2017). Beyond simple inoculation: Examining the persuasive value of inoculation for audiences with initially neutral or opposing attitudes. *Western Journal of Speech Communication*, 81(1), 105–126. <https://doi.org/10.1080/10570314.2016.1224917>
- Jackson, B., Compton, J., Thornton, A. L., Dimmock, J. A. (2017). Rethinking anxiety: Using inoculation messages to reduce and reinterpret public speaking fears. *PLOS ONE*, 12(1): e0169972. <https://doi.org/10.1371/journal.pone.0169972>
- Krakov, M. M., Yale, R. N., Jensen, J. D., Carcioppolo, N., & Ratcliff, C. L. (2018). Comparing mediational pathways for narrative- and argument-based messages: Believability, counterarguing, and emotional reaction. *Human Communication Research*, 44(3), 299–321. <https://doi.org/10.1093/hcr/hqy002>
- Lazarus, R. S. (1991). *Emotion and adaptation*. Oxford University Press.
- Maior, G. R., & Esses, V. M. (2001). The need for affect: Individual differences in the motivation to approach or avoid emotions. *Journal of Personality*, 69(4), 583-615. <https://doi.org/10.1111/1467-6494.694156>
- McGuire, W. J. (1964). Inducing resistance to persuasion: Some contemporary approaches. In L. Berkowitz (Ed.), *Advances in experimental social psychology* 1, (pp. 191-229). Academic Press. [https://doi.org/10.1016/S0065-2601\(08\)60052-0](https://doi.org/10.1016/S0065-2601(08)60052-0)

- McGuire, W. J., & Papageorgis, D. (1962). Effectiveness of forewarning in developing resistance to persuasion. *Public Opinion Quarterly*, 26(1), 24-34. <https://doi.org/10.1086/267068>
- Miller, C. H., Ivanov, B., Sims, J. D., Compton, J., Harrison, K. J., Parker, K. A., Parker, J. L., & Averback, J. M. (2013). Boosting the potency of resistance: Combining the motivational forces of inoculation and psychological reactance. *Human Communication Research*, 39(1), 127-155. <https://doi.org/10.1111/j.1468-2958.2012.01438.x>
- Murphy, S. T., Frank, L. B., Chatterjee, J. S., & Baezconde-Garbanati, L. (2013). Narrative versus nonnarrative: The role of identification, transportation, and emotion in reducing health disparities. *Journal of Communication*, 63(1), 116-137. <https://doi.org/10.1111/jcom.12007>
- Nabi, R. L. (1998). The effect of disgust-eliciting visuals on attitudes toward animal experimentation. *Communication Quarterly*, 46(4), 472-484. <https://doi.org/10.1080/01463379809370116>
- Nabi, R. L. (1999). A cognitive-functional model for the effects of discrete negative emotions on information processing, attitude change, and recall. *Communication Theory*, 9(3), 292-320. <https://doi.org/10.1111/j.1468-2885.1999.tb00172.x>
- Nabi, R. (2002). Discrete emotions and persuasion. In J. P. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice* (pp. 289-308). Sage Publications.
- Nabi, R. (2003). "Feeling" resistance: Exploring the role of emotionally evocative visuals in inducing inoculation. *Media Psychology*, 5(2), 199-223. [https://doi.org/10.1207/S1532785XMEP0502\\_4](https://doi.org/10.1207/S1532785XMEP0502_4)
- O'Keefe, D. J. (2002). Guilt as a mechanism of persuasion. In J. P. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice* (pp.329-344). Sage Publications.

- Oatley, K. (2002). Emotions and the story worlds of fiction. In M. C. Green, J. J. Strange, & T. C. Brock (Eds.), *Narrative impact: Social and cognitive foundations* (pp. 39–69). Erlbaum.
- Oatley, K., & Gholamain, M. (1997). Emotions and identification: Connections between readers and fiction. In M. Hjort & S. Laver (Eds.), *Emotion and the arts* (pp. 263–298). Oxford University Press.
- Parker, K. A., Ivanov, B., Matig, J., Dillingham, L. L., & Peritore, N. (2022). Inoculation booster messages: Frequency, content, and timing. *The Journal of Communication and Media Studies*, 7(1), 1-19. <https://doi.org/10.18848/2470-9247/CGP/v07i01/1-19>
- Parker, K. A., Hester, E., Ivanov, B., Wombacher, K., & Watterson, T. (in press). Experiencing inoculation: A qualitative analysis of an interrupted message design. *Western Journal of Communication*.
- Pence, J. (2004). Narrative emotion: Feeling, form and function. *Journal of Narrative Theory*, 34(3), 273-276. <https://doi.org/10.1353/jnt.2005.0005>
- Pfau, M. (1995). Designing messages for behavioral inoculation. In E. Maibach & R. L. Parrott (Eds.), *Designing health messages: Approaches from communication theory and public health practice* (pp. 99-113). Sage Publications.
- Pfau, M., Compton, J., Parker, K. A., Wittenberg, E. M., An, C., Ferguson, M., Horton, H., & Malyshev, Y. (2004). The traditional explanation for resistance versus attitude accessibility: Do they trigger distinct or overlapping processes of resistance? *Human Communication Research*, 30(3), 329-360. <https://doi.org/10.1093/hcr/30.3.329>
- Pfau, M., Haigh, M. M., Shannon, T., Tones, T., Mercurio, D., Williams, R., Binstock, B., Diaz, C., Dillard, C., Browne, M., Elder, C., Reed, S., Eggers, A., & Melendez, J. (2008). The influence of television news depictions on the images of war on viewers. *Journal of Broadcasting & Electronic Media*, 52(2), 303-322. <https://doi.org/10.1080/08838150801992128>



- Pfau, M., Ivanov, B., Houston, B., Haigh, M., Sims, J., Gilchrist, E., Russell, J., Wigley, S., Eckstein, J., & Richert, N. (2005). Inoculation and mental processing: The instrumental role of associative networks in the process of resistance to counterattitudinal influence. *Communication Monographs*, 72(4), 414-441.  
<https://doi.org/10.1080/03637750500322578>
- Pfau, M., Semmler, S. M., Deatrck, L. M., Mason, A. M., Nisbett, G. S., Lane, L. T., Craig, E., Underhill, J., & Banas, J. (2009). Nuances about the role and impact of affect in inoculation. *Communication Monographs*, 76(1), 73-98.  
<https://doi.org/10.1080/03637750802378807>
- Pfau, M., Szabo, E. A., Anderson, J., Morrill, J. Zubric, J., & Wan H.-H. (2001). The role and impact of affect in the process of resistance to persuasion. *Human Communication Research*, 27(2), 216-252.  
<https://doi.org/10.1111/j.1468-2958.2001.tb00781.x>
- Pinto, M. B., & Priest, S. (1991). Guilt appeals in advertising: An exploratory study. *Psychological Reports*, 69(2), 375-385.  
<https://doi.org/10.2466/PRO.69.6.375-385>
- Richards, A. S., & Banas, J. A. (2015). Inoculating against reactance to persuasive health messages. *Health Communication*, 30(5), 451-460.  
<https://doi.org/10.1080/10410236.2013.867005>
- Richards, A. S., & Banas, J. A., & Magid, Y. (2016). More on inoculating against reactance to persuasive health messages: The paradox of threat. *Health Communication*, 32(7), 890-902.  
<https://doi.org/10.1080/10410236.2016.1196410>
- Richards, A. S., Bessarabova, E., Banas, J. A., & Bernard, D. R. (2020). Reducing psychological reactance to health promotion messages: Comparing preemptive and postscript mitigation strategies. *Health Communication*, 1-9.  
<https://doi.org/10.1080/10410236.2020.1839203>

- Ridout, T. N., & Searles, K. (2011). It's my campaign I'll cry if I want to: How and when campaigns use emotional appeals. *Political Psychology*, 32(3), 439-458. <https://doi.org/10.1111/j.1467-9221.2010.00819.x>
- Rogers, R.W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91(1), 93-114. <https://doi.org/10.1080/00223980.1975.9915803>
- Rozin, P., Haidt, J., & McCauley, C. R. (1993). Disgust. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 575-594). Guilford.
- Slater, M. D., & Rouner, D. (2002). Entertainment-education and elaboration likelihood: Understanding the processing of narrative persuasion. *Communication Theory*, 12(2), 173-191. <https://doi.org/10.1093/ct/12.2.173>
- Sutton, C. H. (2011). *Inoculating against jealousy: Attempting to preemptively reduce the jealousy experience and improve jealousy expression*. (Unpublished master's thesis). University of Georgia, Athens, GA.
- van der Linden, S., Roozenbeek, J., & Compton, J. (2020). Inoculating against fake news about COVID-19. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2020.566790>
- van Tilburg, W. A., & Igou, E. R. (2017). Boredom begs to differ: Differentiation from other negative emotions. *Emotion*, 17(2), 309-322. <https://doi.org/10.1037/emo0000233>
- Wigley, S., & Pfau, M. (2010). Arguing with emotion: A closer look at affect and the inoculation process. *Communication Research Reports*, 27(3), 217-229. <https://doi.org/10.1080/08824091003737901>
- Wirth, W., & Schramm, H. (2005). Media and emotions. *Communication Research Trends*, 24(3), 3-39.

Witte, K. (1992). Putting the fear back into fear appeals: The extended parallel process model. *Communication Monographs*, 59(4), 329-349. <https://doi.org/10.1080/03637759209376276>

Witte, K. (1994). Fear control and danger control: A test of the extended parallel process model (EPPM). *Communication Monographs*, 61(2), 113-134. <https://doi.org/10.1080/03637759409376328>

**Josh Compton, Ph.D.**  
***Institute for Writing and Rhetoric***  
***Dartmouth College***  
***6250 Baker Library, Office 206A***  
***25 North Main Street***  
***Hanover, NH 03755***  
***Office: (603) 646-9842***  
***Email: [josh.compton@dartmouth.edu](mailto:josh.compton@dartmouth.edu)***

**Bobi Ivanov, MBA, Ph.D.**  
***Department of Integrated Strategic Communication***  
***College of Communication and Information***  
***University of Kentucky***  
***310J LCLI Little Library***  
***Lexington, KY 40506-0224***  
***Office: (859) 257-9467***  
***Email: [bobi.ivanov@uky.edu](mailto:bobi.ivanov@uky.edu)***

**Erin B. Hester, Ph.D.**  
***Department of Integrated Strategic Communication***  
***College of Communication and Information***  
***University of Kentucky***  
***211 McVey Hall***  
***Lexington, KY 40506-0045***  
***Email: [erin.hester@uky.edu](mailto:erin.hester@uky.edu)***