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Media Multitasking, Second Screening, and Political Knowledge: Task-Relevant and Task-Irrelevant Second Screening during Election News Consumption

Weina Ran and Masahiro Yamamoto

This study tests the role of second screening during election news consumption in factual political knowledge. Data from an online survey conducted before the 2016 U.S. presidential election show that task-irrelevant second screening during election news consumption on television is negatively related to factual political knowledge, whereas the influence of task-relevant second screening is positive. Data also show that the relationships between task-relevant and task-irrelevant second screening and factual political knowledge are moderated by how much attention one pays to election news on television.

An accumulated body of evidence indicates that media multitasking, unlike what is commonly perceived, has adverse influences on cognitive outcomes such as attention, recall, recognition, and task performance (Jeong & Hwang, 2016). Consistent with this scholarship, recent work has shown that second screening—or the use of multiple (typically two) screens to perform certain tasks—has similar adverse cognitive effects (Angell, Gorton, Sauer, Bottomley, & White, 2016; Segijn, Voorveld, & Smit, 2017), including political learning from news. When people use another screen to perform a task during news consumption, they do not learn from a news source as much as when they concentrate on the news consumption task (Gottfried, Hardy, Holbert, Winneg, & Jamieson, 2017; Ran, Yamamoto, & Xu, 2016; Van Cauwenberge, Schaap, & van Roy, 2014).

This phenomenon raises important political concerns, as an informed citizenry is a foundation of a healthy functioning democracy and political knowledge is a key indicator of democratic citizenship competence (Delli Carpini & Keeter, 1996).

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When citizens have a high level of accurate knowledge about government, political issues, and candidates for office, the quality of participation is enhanced. Well-informed citizens tend to use reason-based criteria, such as candidates' issue stance and policy proposals—to make voting and other political choices—instead of relying on simple heuristics (e.g., name recognition, party affiliation) (Macedo, 2005).

However, second screening may not always adversely influence political learning. When people second-screen to perform multiple tasks with a similar goal, this relatedness of the tasks, or task relevance (Wang, Irwin, Cooper, & Srivastava, 2015), may enhance cognitive outcomes (Segijn, Voorveld, et al., 2017; Van Cauwenberge et al., 2014). Research on political second screening has hinted at this possibility (Houston, McKinney, Hawthorne, & Spialek, 2013; Vaccari, Chadwick, & O'Loughlin, 2015).

The goal of the present study is to extend these lines of research. Drawing from the limited capacity model of mediated message processing (e.g., Lang, 2000) and the threaded cognition model (Salvucci & Taatgen, 2008), we propose that task-relevant and task-irrelevant second screening during election news consumption have differential associations with factual political knowledge. We further argue that the relationships involving task-relevant and task-irrelevant second screening during election news consumption with factual political knowledge depend on how much attention one pays to the primary task of watching election news on television. We use survey data collected before the 2016 U.S. presidential election to test these expectations.

Our study serves three goals. First, research on political second screening has shown mixed evidence for the utility of second screening in political learning (Gottfried et al., 2017; Houston et al., 2013; Ran et al., 2016; Vaccari et al., 2015). To present a clearer insight to this subject, we draw on the notion of task relevance to differentiate second screening between task-relevant and task-irrelevant forms and simultaneously investigate their relationships with factual political knowledge. Second, research on political second screening has focused largely on the main effects of second screening on political learning. With a few exceptions (Gottfried et al., 2017), the conditions under which these political effects are enhanced or weakened has not been entirely studied. Attention to a primary task, in our case election news, might moderate the influences of second screening on political knowledge, as it can affect the likelihood of cognitive overloads (Salvucci & Taatgen, 2008). Third, while research examining the interplay of second screening and task relevance in cognitive outcomes has relied on experiments (Angell et al., 2016; Segijn, Voorveld, et al., 2017; Van Cauwenberge et al., 2014), we draw on survey-based measurements to offer a different form of evidence regarding how the two types of second screening are related to factual political knowledge.

Media Multitasking, Second Screening, and Task Relevance

Multitasking is defined as concurrent involvement in two or more tasks without temporary disengagement from any of the tasks one performs (e.g., Jeong &

Fishbein, 2007). For example, when one drives a car and talks to a friend on the passenger seat, the two tasks co-occur without any temporary break from either task. Multitasking also includes task switching, which refers to the performance of two or more tasks in rapid succession (Monsell, 2003). Viewing a YouTube video on a Web browser and texting a friend using a smartphone, for example, require the allocation and reallocation of attentional resources back and forth in quick succession between the two tasks. Based on this definition, media multitasking refers to either multitasking or task switching, where at least one of the tasks involves a media use activity.

Second screening, otherwise known as dual screening or multi-screening (Segijn, 2016; Vaccari et al., 2015), is one type of media multitasking. Although it generally refers to using two screens, research commonly treats television as the first screen and another digital device, such as a smartphone or laptop, as the second screen (e.g., Gil de Zúñiga, García-Perdomo, & McGregor, 2015). For example, while watching a television show, people may use their smartphones to post comments online about the show. People also may second-screen when they use a computer device, while watching political news on television, to seek additional information online or engage in discussion with others (Gil de Zúñiga et al., 2015).

Although media multitasking is typically approached as the performance of multiple tasks with varied goals (e.g., David, Kim, Brickman, Ran, & Curtis, 2015; Jeong & Fishbein, 2007), such is not necessarily the case. People sometimes perform multiple tasks to achieve a single goal. The concept of task relevance addresses this goal-congruency of tasks involved in multitasking. Task relevance “addresses whether the tasks involved in media multitasking serve closely related goals (or overall, a single goal)” (Wang et al., 2015, p. 101). According to Wang et al. (2015), task relevance is a key dimension of task relations, or the degree to which tasks are related to each other, that can influence the allocation of cognitive resources. Segijn, Voorveld, et al. (2017) explained that task relevance is one aspect of the relatedness of multitasking. Unlike congruity (i.e., the extent to which a message fits the context in which it is embedded) and repetition (i.e., presentation of the same message in different platforms), the focus of task relevance is on the congruency of the underlying goals of the multiple tasks involved (Segijn, Voorveld, et al., 2017).

Recent studies have examined how task-relevant and task-irrelevant second screening differentially affect cognitive outcomes, such as recall and comprehension of news (Van Cauwenberge et al., 2014), audiences’ perceptions of a product presented in a message (Choi & Jung, 2016), and brand memory and attitudes (Angell et al., 2016; Segijn, Voorveld, et al., 2017). Building on these studies, we examine a linkage between task-relevant and task-irrelevant second screening and factual political knowledge. With election news consumption on the first screen (i.e., television), task-relevant second screening involves the use of another digital device to learn about the election (e.g., seek further information, talk to others, learn others’ views), whereas task-irrelevant second screening concerns the use of

another digital device to perform tasks not related to learning about the election (e.g., listen to music, surf the Web, use a social networking site).

Task-Relevant and Task-Irrelevant Second Screening and Political Knowledge

Two cognitive theories help understand how task-relevant and task-irrelevant second screening might be associated with factual political knowledge. The limited capacity model of mediated message processing assumes that human beings have only finite cognitive resources, or attention, to be allocated for message processing at any given moment (e.g., Lang, 2000). Processing a message demands cognitive resources, and people allocate a certain amount of attention to an information processing task (Jeong & Hwang, 2016). When people perform only one task, they can possibly allocate all cognitive resources to this task. As they perform another task, they can no longer entirely allocate all cognitive resources to the first task. Finite cognitive resources are necessarily divided between the first and second tasks, and an amount of attention that can be assigned to the first task is reduced. The reduced cognitive resources allocated to the first task consequently decrease the quality of its performance.

The threaded cognitive model proposed by Salvucci and Taatgen (2008) posits that the execution of each task involved in multitasking is coordinated by a central procedural processor. The processor allocates available processing resources, such as vision, audition, and motor movement, to execute each task. It is possible for the central processor to execute multiple tasks in parallel, so long as these tasks do not demand the same available resource. Yet, a bottleneck problem happens when more than one task demands the same resource at the same time or when multiple tasks demand attention from the processor at the same time (Salvucci & Taatgen, 2008). Such incidents cause overloads in the cognitive system and, as a result, decrease the quality of task performance.

Based on these cognitive theories, we first expect task-irrelevant second screening to have a negative relationship with factual political knowledge. Although the link between task-irrelevant second screening and factual political knowledge has not been extensively examined, Ran et al. (2016) reported that irrelevant media multitasking during political news consumption had a negative relationship with factual political knowledge. The result is consistent with the cognitive theories described above. From a limited capacity perspective, as people perform an irrelevant task during political news consumption, a certain amount of attention shifts to the secondary task, and hence they cannot entirely focus on understanding news, impairing learning from news sources. From a threaded cognition perspective, when people use Facebook, talk to a friend on the phone, watch videos on YouTube, or surf the Web while consuming political news, any of these secondary tasks can require visual and/or auditory

perceptual resources necessary to comprehend news stories. As such, resource conflicts likely arise, and processing of one of the tasks is delayed. While prior studies have shown the negative effects of task-irrelevant second screening on cognitive outcomes in other contexts (Angell et al., 2016; Segijn, Voorveld, et al., 2017), we focus on factual political knowledge and test the following hypothesis in the context of the 2016 U.S. presidential election.

H₁: Task-irrelevant second screening during election news consumption will be negatively associated with factual political knowledge.

Whereas task-irrelevant second screening during political news consumption can be detrimental, task-relevant second screening may have a different influence on political learning. When people use multiple screens to address a common goal, in the present case learning about the election, second screening might be less cognitively demanding, as multiple tasks involved in multitasking are similar, complement each other, and require fewer cognitive resources. As such, task-relevant second screening might have less detrimental influences than task-irrelevant second screening, or even positive influences, on political learning.

This possibility was examined in previous research. Van Cauwenberge et al. (2014) proposed that when people use another screen to search for information about television news, learning from news could be improved; this additional information-seeking could facilitate the processing of the television news and the shared emphasis on news comprehension might help reduce cognitive demands required by performing these tasks. Despite the theoretical reasoning, they found no significant difference between task-relevant and task-irrelevant groups in cognitive loads, recall, and comprehension.

In contrast, Levy and Pashler (2008) found that showing a signal redundantly indicating the onset of a lead vehicle's brake lights resulted in faster braking performance. The result implies the important role of task relevance in facilitating faster processing of information. Angell et al. (2016) found that those who sent text messages or posted tweets related to a soccer match, while watching it on television, had a higher level of recall and recognition of advertisements present in the match. In a political context, Houston, McKinney, Hawthorne, and Spialek (2013) asked college students to watch a U.S. presidential debate and, while doing so, tweet about it using a hashtag created for the study. Using the live-tweet data collected via the hashtag, they created a three-category tweet frequency measure—low, medium, and high. They found that students who tweeted about the debate frequently were more knowledgeable about the debate than those who tweeted with medium and low frequency.

Overall, the role of task relevance in multitasking is somewhat mixed. However, the theoretical reasoning needs further testing. Therefore, we formulate the following hypothesis assessing the role of task-relevant second screening in political learning.

H₂: Task-relevant second screening during election news consumption will be positively associated with factual political knowledge.

Levels of Engagement with Television News as a Moderator

In addition to the above main effects hypotheses, we investigate whether levels of attention to the primary task (i.e., election news consumption on television) may condition political learning. Research on multitasking commonly examines how performing an additional task influences the performance of a primary task (e.g., texting while studying affects academic learning) (e.g., Jeong & Hwang, 2016; Liu, Kirschner, & Karpinski, 2017). However, people's attention to a main task is not always constant, and it is possible that the extent to which second screening affects cognitive outcomes depends on attentional resources that people allocate to a main task.

The notion of task hierarchy seems relevant to this idea. Task hierarchy, another dimension of task relations proposed by Wang et al. (2015), refers to the relative importance given to each task involved in media multitasking—with one end of a continuum representing a primary task assigned high importance and a secondary task assigned low importance—and the other end of the same continuum representing two tasks given equal importance. Segijn, Voorveld, et al. (2017) reviewed prior research in terms of why task relevance played a significant role in some studies, but not others. They found task hierarchy, or degrees of attention to a primary task, as the main difference underlying the mixed evidence. This suggests a possible interactive effect of attention to a primary task and task relevance.

Gottfried et al.'s (2017) study of social networking site use and presidential debate viewing indirectly addressed this idea. They constructed a multitasking measure by asking respondents who watched a presidential debate whether, while doing so, they followed social networking sites, and also measured how much they viewed a presidential debate. Using these variables, they found an interactive effect of debate viewing and media multitasking on debate knowledge. Those who viewed a greater amount of the debate were more knowledgeable about the debate, yet this effect of debate viewing was more noticeable for those who did not multitask than those who multitasked. Yet, Gottfried et al. (2017) did not differentiate social networking site use by task relevance.

Given that the primary task in the current study is to study election news consumption, we examine whether attention to election news on television moderates the separate links between—task-relevant second screening and task-irrelevant second screening—and factual political knowledge. Based on the concept of task hierarchy (Wang et al., 2015), it is reasonable to assume that as people pay more attention to election news on television, they are giving greater importance to this task. From a threaded cognition perspective (Salvucci & Taatgen, 2008), when people pay careful attention to election news on television and intensely perform

irrelevant tasks at the same time (e.g., texting, online shopping, watching an online video, checking friends' posts on social media), both tasks likely receive a similar or equal level of importance and therefore compete for attention from the central procedural processor. As a consequence, a bottleneck problem might occur, and people might fail to learn effectively from election news on television.

Furthermore, television news is a visual-audio dominant medium (Shen & Eveland, 2010), and these additional media activities demand visual and/or auditory perceptual resources. For example, one's visual focus temporarily moves from one screen (i.e., television) to another screen (e.g., smartphone), leading to the loss of information shown in the news. People also use cognitive resources to process not only election news on television, but also information from the additional tasks that they perform. As people attend to election news on television while performing irrelevant tasks with another screen, demands for resources might exceed supplies. As a result, cognitive overloads might happen and reduce one's learning from election news on television. Based on these discussions, we test the following hypothesis.

H₃: Task-irrelevant second screening during election news consumption will have a stronger negative relationship with factual political knowledge for those who pay more attention to election news on television.

Similarly, levels of attention to election news on television might moderate the association between task-relevant second screening and factual political knowledge. We hypothesize this association to be attenuated for people who pay greater attention to election news on television and more pronounced for those who pay less attention to it. The primary and secondary tasks may address a similar goal (e.g., watch election news on television and look for related information with a laptop to understand candidates' issue positions). Even so, if people pay close attention to election news on television and concurrently perform other tasks, then both types of tasks would be assigned a similar or equal level of importance; as such, these different tasks might compete for attention from the central procedural processor (Salvucci & Taatgen, 2008). As a consequence, cognitive overloads might occur and people might not be able to learn political facts successfully from either task.

Conversely, when people allocate a minimal or limited amount of attention to watch election news on television, they might be assigning limited importance to this task. As such, even if they heavily perform related tasks using another screen, these tasks might not compete for attention from the central procedural processor. Also, as people expend a limited amount of attention to election news on television, enough perceptual and cognitive resources might be left available that could be assigned to the secondary task. In these cases, cognitive overloads might not occur. Although reduced attention to election news may decrease viewer learning about the election, the goal congruent nature of task-relevant second screening might still help them gain meaningful political knowledge from election news viewing. Task-relevant second-

screening may also lead to a higher level of political knowledge among those who don't devote a high level of attention to election news on television.

H₄: Task-relevant second screening during election news consumption will have a stronger positive relationship with factual political knowledge for those who pay less attention to election news on television.

Method

Data for this study came from members of an online panel obtained by Qualtrics, an online survey service. An online panel refers to a pre-recruited group of individuals who opt in to become panel members and volunteer to participate in research projects. An online survey administered via Qualtrics was fielded during the two-week period immediately prior to the 2016 U.S. presidential election. A total of 630 completed surveys was obtained. As online panel members tend to be skewed toward particular demographic attributes such as male, young, and liberal individuals, we set age-, gender- and race-based quotas for the sample, according to corresponding U.S. Census population characteristics. These quotas were then utilized to select and match a sample of panel members. Admittedly, the sample obtained in this manner is not representative of the U.S. population selected through traditional random sampling techniques. Hence, caution should be exercised in interpreting results. Yet, given our emphasis on digital media use during news consumption, it is at least permissible to rely on data from an online panel.

Measures

Factual Political Knowledge. To measure respondents' political knowledge in the context of the 2016 U.S. presidential election, we created several multiple-choice questions about the two candidates (i.e., Hillary Clinton and Donald Trump). Specifically, respondents were asked about (1) the name of Hillary Clinton's running mate, (2) Donald Trump's running mate, (3) their stance on death penalty, (4) Hillary Clinton's healthcare policy proposal, (5) Hillary Clinton's minimum wage proposal, (6) Donald Trump's stance on climate change, and (7) Donald Trump's tax plan proposal. Correct answers were coded as 1 and incorrect answers were coded as 0. Then, correct answers were summed to form a knowledge index ranging from 0 to 7 ($M = 4.26$, $SD = 1.27$).

Task-Irrelevant Second Screening. Based on prior research (David et al., 2015; Ran et al., 2016), task-irrelevant second screening was measured by ten items. Responders were asked how often they listened to music, watched videos online

for fun, chatted with friends about random stuff via text message or instant messenger, used social networking sites for fun, and surfed the Web for fun while watching (1) a campaign speech or presidential debate on TV and (2) election news on TV, respectively. Responses were averaged on a 5-point scale ($1 = \text{never}$; $5 = \text{very often}$) ($M = 2.37$, $SD = 1.16$, $\alpha = .95$).

Task-Relevant Second Screening. Six items were adapted from prior studies to measure task-relevant second screening (e.g., Gil de Zúñiga et al., 2015). Respondents were asked how often they used a computer device to seek further information about the election or candidates, to learn other people's opinions on the election or candidates, and to discuss the election or candidates with others while watching (1) a campaign speech or presidential debate on TV and (2) election news on TV, respectively. Responses were averaged on a 5-point scale ($1 = \text{never}$; $5 = \text{very often}$) ($M = 2.65$, $SD = 1.22$, $\alpha = .94$).

Attention to Election News on Television. Four items were used to measure attention to election news on television. Respondents were asked how much attention they paid to (1) network television news (e.g., CBS, ABC, NBC), (2) CNN, (3) MSNBC, and (4) Fox News to learn about the election. Responses were averaged on a 5-point scale ($1 = \text{none}$; $5 = \text{a great deal}$) ($M = 2.54$, $SD = 1.09$, $\alpha = .80$). Research indicates different patterns of political news across these sources (e.g., Hyun & Moon, 2016). Asking about attention to these different sources, we sought to assess how much respondents cognitively attended to election news through television. As can be seen from the description of the second-screening variables, election news consumption as part of second screening is examined in terms of exposure and does not capture attentional resources allocated to election news. Even if people frequently watch election news on television, they may not necessarily pay attention to it (Chaffee & Schleuder, 1986). Thus, it is important to specifically assess levels of cognitive involvement with election news. Note also that this measure taps only offline television viewing to make it consistent with the television-focused measures of second screening.

Control Variables. Several variables were included as statistical controls to assess the unique relationship between the two forms of second screening and factual political knowledge. Age was measured by a 6-point category item ranging from 18–24 to 65 and over ($M = 3.66$, $SD = 1.64$, $Median = 4$: 45–54). Gender was measured with females as the high value and males as the low value (male = 48.1%; female = 51.9%). Education was measured by a 10-point category item ($M = 4.68$, $SD = 1.64$, $Median = 4$: Some college, no degree). Income was measured by a 10-point category item ($M = 5.17$, $SD = 2.15$, $Median = 5$: \$35,000 to \$49,999). Race was measured by asking respondents to select the category or categories that describe their race from White (73.2%), Black or African American (14.1%), Hispanic (4.4%), Asian or Asian American (7.6%), and Other (3.2%), with those

who selected Whites coded as the high value and all others as the low value. Political interest was measured by a 7-point scale item ($M = 5.43$, $SD = 1.77$). Party affiliation was measured by a 7-point scale item ($1 = \text{strong Republican}$; $7 = \text{strong Democrat}$) ($M = 4.21$, $SD = 1.95$). Political ideology was measured by a 7-point scale item ($1 = \text{very conservative}$; $7 = \text{very liberal}$) ($M = 3.79$, $SD = 1.73$).

Additionally, attention to print newspapers and online media were included as statistical controls, as they had been found to be related to factual political knowledge (e.g., Shen & Eveland, 2010). Attention to print newspapers was measured by a single item asking respondents how much attention they paid to print newspapers to learn about the election ($M = 2.50$, $SD = 1.34$). Attention to online media was measured by six items asking respondents how much attention they paid to (1) a Web site of public media, (2) a Web site of network television, (3) CNN.com, (4) MSNBC.com, (5) FoxNews.com, and (6) a Web site of a newspaper. Responses were averaged on a 5-point scale ($1 = \text{none}$, $5 = \text{a great deal}$) ($M = 2.36$, $SD = 1.06$, $\alpha = .87$).

Analytic Strategy. To test the proposed hypotheses, we used the SPSS PROCESS macro (Hayes, 2013). First, we estimated an ordinary least squares (OLS) regression model to investigate the unique association between task-relevant and task-irrelevant second screening and factual political knowledge. Second, we used model 1 to test the moderating role of attention to television news. Specifically, two interaction terms, one between task-relevant second screening and attention to television news and the other between task-irrelevant second screening and attention to television news, were individually introduced to the main effects model. Significant interaction effects were probed using the Johnson-Neyman technique (Hayes, 2013); this technique allows the identification of the value of a continuous moderating variable which determines whether the effect of a predictor on an outcome can become significant or cease to be significant. The region of significance was plotted using R package, "jtools" (Long, 2018).

Results

The first column in Table 1 shows an OLS regression model, whereby factual political knowledge is regressed on the control variables, attention to television news, and task-relevant and task-irrelevant second screening. H_1 predicted that task-irrelevant second screening during election news consumption would be negatively associated with factual political knowledge. As shown by the negative association between task-irrelevant second screening and factual political knowledge ($B = -.220$, $p < .001$), this hypothesis was supported.

H_2 predicted that task-relevant second screening during election news consumption would be positively associated with factual political knowledge. As evidenced

Table 1
Predicting Factual Political Knowledge

	Factual Political Knowledge		
	Model 1	Model 2	Model 3
Age	.043(.037)	.047(.037)	.048(.037)
Gender (female)	-.137(.104)	-.158(.104)	-.154(.104)
Education	.050(.033)	.053(.033)	.054(.033)
Income	.033(.026)	.030(.026)	.028(.026)
Race (Caucasian)	-.164(.124)	-.144(.124)	-.141(.124)
Political interest	.070(.032)*	.064(.032)*	.054(.033)
Party affiliation	-.048(.032)	-.045(.032)	-.045(.032)
Political ideology	.123(.034)***	.117(.034)***	.116(.034)***
Attention to television news	-.126(.068)	.057(.106)	.119(.117)
Attention to newspapers	-.004(.046)	-.000(.046)	.000(.046)
Attention to online media	-.235(.083)**	-.199(.084)*	-.195(.084)*
Task-irrelevant second screening	-.220(.058)***	-.008(.111)	-.213(.058)***
Task-relevant second screening	.252(.061)***	.245(.061)***	.486(.109)***
Task-irrelevant SS x attention to TV	—	-.079(.035)*	—
Task-relevant SS x attention to TV	—	—	-.092(.036)*
R-squared (%)	14.2***	14.9***	15.1***

Note. $N = 627$. Entries are unstandardized regression coefficients. Standard errors in parentheses. SS = second screening.

by the positive relationship between task-relevant second screening and factual political knowledge ($B = .252, p < .001$), this hypothesis was supported.

H_3 proposed that task-irrelevant second screening during election news consumption would have a stronger negative association with factual political knowledge for those who pay closer attention to television news. This hypothesis was supported. The second column in Table 1 shows that task-irrelevant second screening significantly interacted with attention to television news in predicting factual political knowledge ($B = -.079, p < .05$). The Johnson-Neyman technique showed that the value of attention to television news at 1.62 was the point of transition, from non-significance to significance in the negative relationship between task-irrelevant second screening and factual political knowledge (point estimate = $-.135, p = .05$, CIs $[-.271, .000]$). When attention to television news was at or below 1.62, the relationship between task-irrelevant second screening and factual political knowledge was not significant. The magnitude of the negative relationship was stronger as levels of attention to television news increased above 1.62. Table 2 shows details of the observed conditional effect of task-irrelevant second screening at values of

Table 2
Conditional Effects of Task-Irrelevant Second Screening on Factual Political Knowledge as a Function of Attention to Television News

Attention to TV News	Effect	SE	LLCI	ULCI	<i>p</i>
1.00	-.087	.083	-.249	.076	.296
1.40	-.118	.073	-.262	.026	.108
1.80	-.150	.066	-.279	-.021	<.05
2.20	-.181	.060	-.299	-.063	<.01
2.60	-.213	.058	-.326	-.099	<.001
3.00	-.244	.059	-.359	-.129	<.001
3.40	-.276	.063	-.399	-.152	<.001
3.80	-.307	.070	-.444	-.171	<.001
4.20	-.339	.078	-.492	-.185	<.001
4.60	-.370	.088	-.544	-.196	<.001
5.00	-.402	.100	-.597	-.206	<.001

Note. CI = bias corrected 95% bootstrap lower limit (LL) and upper limit (UL) confidence interval. Values of attention to television news in steps of 0.4.

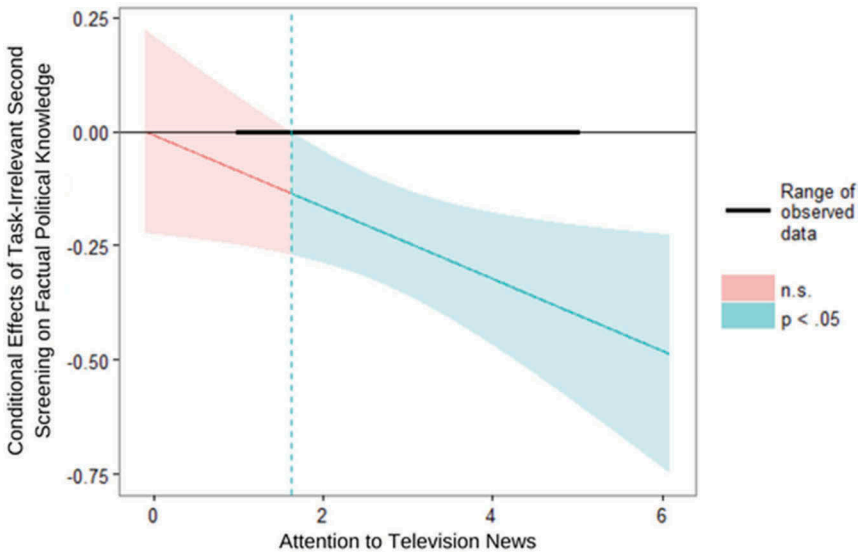
attention to television news between 1 and 5. This conditional effect is also plotted in [Figure 1](#).

H₄ predicted that task-relevant second screening during election news consumption would have a stronger positive association with factual political knowledge for those who pay less attention to television news. This hypothesis was supported. The third column in [Table 1](#) shows that an interaction term between task-relevant second screening and attention to television news was significantly related to factual political knowledge ($B = -.092$, $p < .05$). The Johnson-Neyman technique showed that the value of attention to television news at 3.70 was the point of transition from significance to non-significance in the positive link between task-relevant second screening and factual political knowledge (point estimate = .144, $p = .05$, CIs [.000 to .289]). Below the value of attention to television news at 3.70, the magnitude of the association between task-relevant second screening and factual political knowledge was weaker as levels of attention to television news increased. When attention to television news was at or above 3.70, the relationship was not significant. [Table 3](#) indicates details of the observed conditional effect of task-relevant second screening at values of attention to television news between 1 and 5 in steps of 0.4. This conditional effect is also visualized in [Figure 2](#).

Discussion

The results presented above add a few insights to the existing literature. First, the data showed that task-irrelevant second screening while viewing election news on

Figure 1
Conditional Effects of Task-Irrelevant Second Screening on Factual Political Knowledge as a Function of Attention to Election News on Television



television was related to lower levels of factual political knowledge. This result is consistent with previous research (Ran et al., 2016). As reported by prior research (e.g., Segijn, Voorveld, et al., 2017), using multiple screens to perform unrelated tasks is not as easy as people may think it is. By doing so, people fail to learn political facts from election news, thereby reducing their ability to meaningfully contribute to the democratic process as informed citizens.

In contrast, the data showed the positive association between task-relevant second screening and factual political knowledge. Because of its congruent nature, task-relevant second screening may be less cognitively demanding than task-irrelevant second screening. It thus may allow people to concentrate on news they are consuming across multiple screens with limited resource allocation (Segijn, Voorveld, et al., 2017; Van Cauwenberge et al., 2014), which may help enhance task performance and increase learning from news information. In addition, differential learning might help explain the observed association (Scheufele, 2002). When broken down into the individual pieces that constitute it, task-relevant second screening consists of the use of a television screen and another screen to address a closely related purpose. In the present context, people watch election news on television and use another digital device, such as a smartphone or table, to perform tasks related to the viewing of election news. When considered in

Table 3
Conditional Effects of Task-Relevant Second Screening on Factual Political Knowledge as a Function of Attention to Television News

Attention to TV News	Effect	SE	LLCI	ULCI	<i>p</i>
1.00	.393	.082	.233	.554	< .001
1.40	.356	.073	.213	.500	< .001
1.80	.320	.066	.190	.449	< .001
2.20	.283	.062	.161	.404	< .001
2.60	.246	.061	.127	.365	< .001
3.00	.209	.063	.085	.332	< .001
3.40	.172	.068	.038	.306	< .05
3.80	.135	.076	-.014	.284	.075
4.20	.098	.085	-.069	.265	.378
4.60	.061	.096	-.127	.249	.523
5.00	.024	.107	-.186	.235	.822

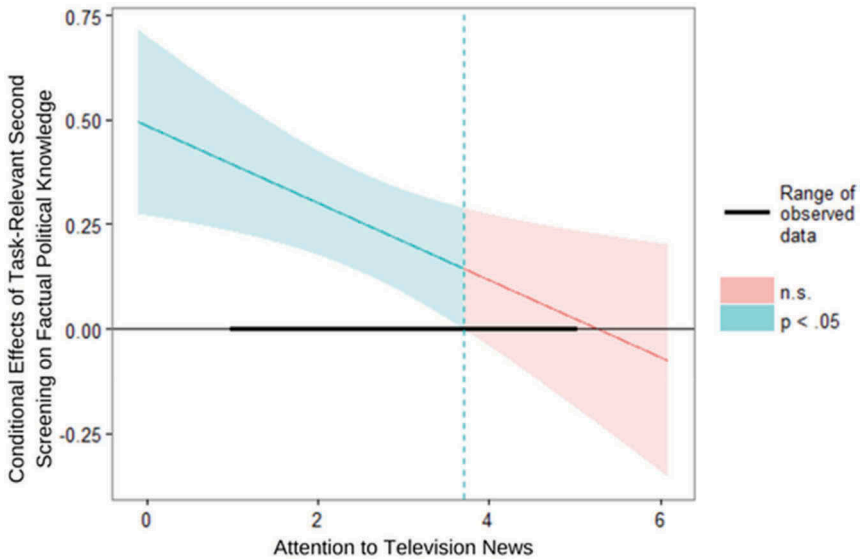
Note. CI = bias corrected 95% bootstrap lower limit (LL) and upper limit (UL) confidence interval. Values of attention to television news in steps of 0.4.

this way, the use of the second screen in a way moderates the relationship between watching election news on television and factual political knowledge. People can learn more from political news if they also engage in news-related activities beyond simply watching television news. At any rate, this result supports the prior evidence for the utility of task-relevant second screening in cognitive outcomes (e.g., Angell et al., 2016; Segijn, Voorveld, et al., 2017).

These results are consistent with the theoretical predictions derived from the limited capacity model of mediated message processing (Lang, 2000), the threaded cognition model (Salvucci & Taatgen, 2008), and the notion of task relevance (Wang et al., 2015). Multitasking reduces the quality of task performance yet its effects can depend on task relevance, and performing related tasks can lead to positive cognitive benefits. Our study has extended this notion to the literature on political second screening (e.g., Gil de Zúñiga et al., 2015; Gottfried et al., 2017; Houston et al., 2013). While studies in this domain examined second screening in relation to political knowledge (Gottfried et al., 2017; Houston et al., 2013), they did not simultaneously consider task-relevant and task-irrelevant second screening. Therefore, our study paints a clearer picture of the role of second screening in political learning. Additionally, the politically beneficial role of task-relevant second screening is in line with the evidence that using multiple digital screens to perform news-related activities promotes political participation (Gil de Zúñiga et al., 2015; Vaccari et al., 2015).

The data also showed that levels of attention to television news moderated the relationships that task-relevant and task-irrelevant second screening, respectively, had with factual political knowledge. For task-irrelevant second

Figure 2
Conditional Effects of Task-Relevant Second Screening on Factual Political Knowledge as a Function of Attention to Election News on Television



screening, the negative linkage with factual political knowledge was more evident as respondents paid more attention to television news. For task-relevant second screening, the positive linkage with factual political knowledge was more evident when respondents paid less attention to television news and was not significant when they paid more attention to it. When people pay close attention to election news on television while intensely performing other tasks, whether relevant or irrelevant, they are giving a similar level of importance to both tasks. As both tasks compete for attention from the central procedural processor, cognitive overloads would likely occur (Salvucci & Taatgen, 2008). As a result, as attention to election news on television increases, the negative association between task-irrelevant second screening and political learning is exacerbated, while the positive influence of task-relevant second screening is attenuated.

In contrast, minimal or limited attention to election news on television suggests that people are not assigning much importance to this task. Processing election news might not be prioritized, and thus even if people heavily perform other tasks, these tasks might not compete for attention from the central procedural processor. The key difference between task-irrelevant and task-relevant second screening in

this case is that the former would not contribute to knowledge gains, whereas the latter likely would because of its goal congruent nature.

The present results have practical implications. It is important for television news consumers to know the differential influences of second screening on political learning so that they can optimize their television news consumption habits in favor of performing tasks related to television news viewing. Doing so would help them more effectively learn political facts and consequently become more informed citizens. Also, television news producers might enhance their efforts to interact with viewers. News programs commonly ask on their social media pages that viewers share their thoughts on issues and spotlight audience feedback on air. Our study suggests that such interactive efforts that promote relevant news activities can facilitate political learning, which could likely benefit viewers even if they may not necessarily pay attention to news programs.

Despite these supportive results, the current study was limited in several important respects. First, the data were obtained from a non-representative, quota-based sample of online panel members recruited by Qualtrics. The sample is not representative of the population of our interest (i.e., the U.S. public), as all members of the population did not have an equal chance of being selected into the sample. Therefore, our ability to project the findings to the population is necessarily restricted. Second, the cross-sectional data analyzed in our study limit our capacity to rule out alternative possibilities in terms of causal inference. For example, those who knew more about the candidates might have engaged in task-irrelevant second screening, as they felt they already knew enough about the candidates and therefore did not fully focus on the news. Multi-wave data would be necessary to address this limitation. Third, election news consumption on television was examined only in terms of traditional television. As we note below, television news viewing occurs not only via traditional television sets, but also via computer devices such as laptops and tablets. Thus, the present results might not be fully reflective of the current television news landscape.

Finally, self-report survey data are limited in terms of internal validity. It is not entirely clear that the results are indeed attributable to task relevance and attention to television news. An experiment would help offer more causally robust evidence. For example, researchers might ask two groups of subjects to use a smartphone to buy an item of their interest (e.g., with the budget of \$20) and simultaneously view a clip of a presidential debate on television, while two other groups are asked to use a smartphone to search for and read information about issues and candidates in the debate while viewing the clip on television. One of the first and second groups of subjects are led to believe that they will be asked to participate in discussion with others about the debate, while the others of the first and second groups do not receive such an instruction. At the end, all groups of subjects are asked to complete a series of factual questions about the debate. This type of design might allow more precise investigation of the main effects of—task relevance and attention to television news—

and their interactive effects on factual political knowledge. In a similar vein, employing eye-tracking methods would provide a more precise measure of how much attention people allocate while second-screening (Segijn, Voorveld, Vandeberg, & Smit, 2017).

These limitations notwithstanding, our study has added useful insights to the extant literature on second screening. With a simultaneous consideration of task-relevant and task-irrelevant second screening, we revealed their differential relationships with factual political knowledge. We also uncovered that not only what other tasks people perform during election news consumption, but also how much attention they pay to election news itself influence how much they can learn from television news. In addressing these issues, we employed survey-based measurements of second screening to add a different type of evidence for the interplay of second screening and task relevance.

Finally, we offer a few avenues to extend the present study. One such avenue is to consider second screening in other digital platforms. Although research on second screening tends to treat conventional television (e.g., flat television screen) as the first screen, television viewing is no longer limited to this particular medium. People can watch television online via other devices such as laptops and tablets. When people use these device to watch television, viewers have greater control over viewing behaviors. Unlike traditional, offline television, viewers can begin, stop, and resume viewing behaviors as they like when they watch television online. Such increased levels of user control might need to be considered as future research examines television viewing through accessing online platforms.

Moreover, while we focused on factual political knowledge, there are other types of political knowledge that future research can consider, such as subjective political knowledge and political knowledge structure density. Integrating these dimensions of political knowledge into the present study would clarify the role of task-relevant and task-irrelevant second screening in a political context. Finally, it would be useful to understand why people engage in task-relevant and task-irrelevant second screening during political news consumption. People might perform task-relevant second screening to satisfy information motives, whereas those who perform task-irrelevant second screening might do so to seek efficiency or pass time (Hwang, Kim, & Jeong, 2014). Examining second screening motives as antecedents to task-relevant and task-irrelevant second screening would offer a more complete view of the role of second screening in political learning. On balance, continued research is needed to better understand the democratic promise and harm of these increasingly pervasive forms of news consumption in today's digitally connected society.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Dual-Screening the Candidate Image during Presidential Debates: The Moderating Role of Twitter and Need to Evaluate for the Effects on Candidate Perceptions

Lindita Camaj and Temple Northup

This study investigates the impact of dual-screening on audiences' perceptions of presidential candidates during the 2016 electoral campaign. The results suggest that dual-screening can exert a significant moderation role, weakening the direct effects of the televised debates on candidate perceptions. The results also imply that the role of dual-screening might be dependent on the audience's need-to-evaluate characteristic. These findings address the pressing societal questions on ways that digital disruption is impacting the role of traditional media in political campaigns and our theoretical understanding of this process.

Since the first televised presidential debate in 1960, scholars and campaign strategists alike have considered televised political events crucial in determining the electoral success of presidential candidates. Televised debates serve at least two purposes: a) helping voters learn policy and candidate related information, and b) helping political campaigns swing undecided voters by emphasizing their candidate's strengths and opponent's weaknesses (Benoit, Hansen, & Verser, 2003). Until recently, viewers of televised debates would have watched them without any other media screen distracting them. However, changes in technology have given birth to *dual-screening*, a growing set of social practices that combines television viewing with digital media engagement. Tied to immediacy, people particularly engage in dual-screening during live television shows. During the 2012 electoral campaign, 1 in 10 people dual-screened the first debate between President Obama and GOP candidate Mitt Romney (Pew Research Center, 2012), while 37% of people who

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followed the results of the 2016 U.S. presidential elections on television did so on social media at the same time (Pew Research Center, 2016). This phenomenon raises questions about the political role of televised debates in the digital age as well as concerns about the effects of dual-screening for civic engagement and democratic outcomes.

This study, which explores the consequences of dual-screening for political learning and opinion formation in the contexts of political campaigns and the 2016 presidential debates, has two main goals. The first is to compare a group of citizens watching the debates on TV alone versus a group dual-screening the debates (following the debate on television and Twitter simultaneously). The second is to explore the moderating role of the “need to evaluate”—a personality trait that reflects the constant need to evaluate and hold strong opinions (Jarvis & Petty, 1996).

This research advances the literature in several ways. First, it addresses pressing societal questions on ways digital disruption is impacting the role of traditional media in political campaigns and our theoretical understanding of this process. Some scholars have questioned the applicability of traditional media effects theories in the current fragmentization of the media environment (Bennett & Iyengar, 2008), arguing that the growing trend of multi-channel media usage has reduced the influence of traditional media. In contrast, others have argued that traditional media still dominate public agendas and discourse on issues and topics of importance (Holbert, Kenny, & Gleason, 2010).

Second, studies have shown that dual-screening has the potential to affect participants’ learning (Gottfried, Hardy, Holbert, Winneg, & Hall Jamieson, 2016; Van Cauwenberge, Schaap, & Van Roy, 2014), opinion formation (Cameron & Geidner, 2014; McKinney, Houston, & Hawthorne, 2013), and participation (Chadwick, O’Loughlin, & Vaccari, 2017; Gil de Zúñiga, Garcia-Perdomo, & McGregor, 2015). However, the literature on the effects of dual-screening also offers contradictory arguments. On the one hand, some scholars emphasize the role of dual-screening as a facilitator of news discussion and contextualization that can enhance information retention (Gil de Zúñiga et al., 2015; Van Cauwenberge et al., 2014). Other studies have raised concerns that trends like dual-screening come with a cost as multitasking disrupts the cognitive capability to handle information and learning (Gottfried et al., 2016; Van Cauwenberge et al., 2014). This study considers the personality trait of need to evaluate as a potential moderator that could explain these inconsistencies.

Literature Review

Dual-Screening Political Debates

As social media became embedded into our culture, the hybrid media phenomenon of “dual-screening” emerged as the most recent trend in the areas of social media and digital news. As Gil de Zúñiga et al. (2015, p. 5) define it, dual-screening

for news is “a process in which individuals watching television use an additional electronic device or ‘screen’ to access the internet or social networking sites to obtain more information about the program or event they are watching or to discuss it in real time.” In these terms, political communication literature defines dual-screening as a purposive act rather than just multitasking. Similarly, the present study treats the use of social media during political debate viewing as a purposive form of multitasking.

The emerging research in this area explores motivations that drive audiences’ engagement in dual-screening during live political events (Chadwick et al., 2017; Gil de Zúñiga et al., 2015), and the democratic outcomes of this practice (Gil de Zúñiga & Liu, 2017; Van Cauwenberge et al., 2014). The current project adds to the literature by focusing specifically on the effects of dual-screening televised debates. Studies so far have explored the effects of dual-screening on debate content knowledge (Gottfried et al., 2016), candidate and issue evaluations (Houston, Hawthorne, Spialek, Greenwood, & McKinney, 2013; McKinney, Houston, & Hawthorne, 2013), vote choice (Maruyama, Robertson, Douglas, Semaan, & Faucett, 2014) and other political participation outcomes (McGregor & Mourao, 2017).

In general, these studies indicate that tweeting while watching political debates can cause differences in outcome variables, compared to viewing political debates without using social media. Some studies even provide support that dual-screening reduces the effects of political debates compared to traditional television watching (Gottfried et al., 2016). Unlike previous studies that mostly explore the effects on debate knowledge or debate attitudes in general, the present study focuses more specifically on candidate evaluations as outcome variables. In addition, it considers the psychological differences that might moderate this relationship by focusing on the role of need to evaluate.

The Effects of Political Debates on One Screen versus Two Screens

Televised presidential debates tend to foster the audiences’ knowledge of the candidates, their issue positions and the audiences’ perceptions about candidate personality traits (see Benoit et al., 2003 for a review; also Benoit, 2013). The effectiveness of the debates is attributed to the verbal, tonal, and visual information they generate for the audiences watching at home (Grabe & Bucy, 2009). On televised debates, political candidates convey general appropriateness that can be manifested in the verbal and nonverbal communication of political leaders, such as poise and composure. But when candidates showcase behavior that resists the standards of appropriateness, their behavior can be viewed negatively.

Much previous literature has examined the effects of political debates on candidate attribute perceptions, indicating that verbal and non-verbal communications conveyed during televised debates have a significant impact on voters’ perceptions of candidate traits. Campaign debates can alter voter perceptions of candidates’ personality (like honesty and compassion) (Benoit et al. (2003), competence (Seiter & Weger, 2005),

honesty, fairness (Benoit, 2013; Benoit, Webber, & Berman, 1998), and the perceived importance of leadership in vote choice (Benoit, McKinney, & Holbert, 2001). Features like voice tone, expressions, gestures, and eye blink rate are significant factors conveyed by televised images that determine debate viewers' perceptions of candidates (Grabe & Bucy, 2009).

Research also suggests that communication modality is a crucial moderator of the effects of political debates on viewers' perceptions of candidates. Relevant to this study, the split-screen functionality—which enables audiences to hear a candidate's debate response while seeing their opponents' reactions simultaneously—has been related to voters' judgment of presidential candidates (Scheufele, Kim, & Brossard, 2007). While the split-screen technology represents a passive viewing of debates, the recent integration of social media into the political sphere has made “watching a debate a social experience and generates a parallel stream of information and opinion that augments the debating candidates' words” (Maruyama et al., 2014, p. 2). People who engage in dual-screening seek information and engage in discussions (Gil de Zúñiga et al., 2015) that lead to substantive deliberations on a narrow set of issues (McKinney et al., 2013). Thus, in addition to seeing the opponent's reaction on a split-screen, the new modality of social media integration adds into this mix a wider range of reactions to the debating candidates from citizens, news media, and campaign strategists.

In the context of political events, dual-screening serves as an important facilitator of information contextualization (Gil de Zúñiga et al., 2015; Wang & Tchernev, 2012), drawing attention to topics neglected in the official debate and enables onlookers to tap into overarching public opinion as live tweets collectively wield influence on candidate perceptions (McKinney et al., 2013). Research suggests that political elites, journalists and news organizations post the most influential tweets during political debates, while citizens' posts are dominated by sarcastic content (Hawthorn et al., 2013; Tremayne & Minooie, 2015; Trilling, 2015) and driven by candidate non-verbal behavior rather than by substantial discussions (Shah et al., 2016).

In addition, social networking sites have a tendency to foster homophily, further limiting the range of information to which voters are exposed. For example, Himelboim, McCreery, and Smith (2013) found that Twitter users who discussed the topics during the 2010 midterm elections preferred following, mentioning, and replying to users with similar political views. Access to Twitter discussions of the debates can facilitate selective exposure to pro-attitudinal messages that can give higher character and competence ratings to the candidate they support. Lastly, incivility present on social media discussions has the potential to skew viewers' perceptions and affect their emotional response towards candidates (Mutz & Reeves, 2005).

This literature suggests that televised debates and social media discourse on those debates are not closely aligned and thus can expose audiences to two different candidate images with potentially different consequences. While watching political debates, viewers are exposed to—and potentially affected by—a holistic perspective

of debate content that includes a variety of verbal and non-verbal cues. The related social media discourse seems to focus viewers' attention instead on a narrower set of negative and humor cues (Trilling, 2015). As Trilling (2015, p. 272) notes, "candidates have little to win on Twitter with their performance in TV debates: Tweets that are negative or focus on funny nonsubstantial aspects dominate the discussion."

To date, few studies have empirically investigated the consequences of dual-screening for debate effects on viewers' candidate perceptions. Houston, McKinney, Hawthorne, & Spialek (2013) found that tweeting frequency during the debate enhanced viewers' knowledge about the debate in general. Similarly, Gottfried et al. (2016) found that debate viewership generally increased debate content knowledge, regardless of whether the viewers were simultaneously engaging in social media. However, when comparing the two groups, dual-screening dulled the debate effects on knowledge. Related to this study, Houston et al. examined the effects of dual-screening on perceptions of political candidates during the 2012 televised debates. They found that tweeting while watching decreased viewers' feelings toward Romney and their perceptions that Romney was the debate winner. In contrast, tweeting during the debate was related to more favorable views about Obama.

Based on this research, we expect there to be significant differences between those who dual-screen and those who do not. Although the literature is not perfectly clear as to what those differences will be, it is clear that viewers exposed to the televised debate alone will absorb a different candidate image from viewers who dual-screen the debate. Lacking access to cues from the social media discourse, voters are more likely to (1) pay attention to the overall verbal and visual cues conveyed by the candidates on TV and (2) internalize them into their evaluations and feeling towards the candidates. Individuals dual-screening the debate will be more likely to filter and interpret televised cues and images through social media messages. Studies have also shown that framing of the debates by the media coverage can influence how viewers reason about the content of the debate (Pingree, Scholl, & Quenette, 2012). Therefore, the effects of the political debates on perceptions of a candidate (defined as a cumulative index of perceived candidate morality, leadership, caring, intelligence, knowledge, and honesty traits)—and attitudes toward a candidate (measured in terms of their feeling thermometer)—will be stronger for people watching the debate on television alone than for people who engage in dual-screening. Specifically,

H_{1a} : Individuals exposed to the political debates on television will exhibit greater change in their perceptions of candidate attributes than individuals exposed to the political debates on two screens (Television and Twitter).

H_{1b} : Individuals exposed to the political debates on television will exhibit greater change in their attitudes toward the candidate than individuals exposed to the political debates on two screens (Television and Twitter).

The Explanatory Role of Need to Evaluate

The need to evaluate (NTE) concept explains an individuals' motivation to think evaluatively, with people high in NTE more likely to evaluate objects in their environment than people low in NTE (Jarvis & Petty, 1996). As such, it suggests meaningful individual differences in the extent to which people form evaluations about other individuals. Compared with people who are low on NTE, high-NTE individuals tend to form and develop more accessible opinions (Jarvis & Petty, 1996; Tormala & Petty, 2001), more extreme opinions, and stronger opinions about a variety of issues and objects (Britt, Millard, Sundareswaran, & Moore, 2009).

Druckman and Nelson (2003) demonstrated that individuals low in NTE are more susceptible than people with high NTE to attitude change in response to immediate experimental stimuli. High NTE people are likely to engage in evaluations spontaneously during exposure to information, and not as likely to form judgments based on incidental factors such as one-time exposure to televised debates (Tormala & Petty, 2001). Individuals with low NTE who lack motivation to think in a spontaneous way are more likely to rely on top of the head information they obtain during televised debates to form their evaluations (Druckman & Leeper, 2012). Thus, we might expect the debate content to have a stronger effect on people with low NTE than on people with high NTE.

However, dual-screening could compromise such effects, as it can disrupt information processing, which in turn may impact the hypothesized effects on attitudinal evaluations. In particular, while people with low NTE form their attitudes based on the valence of what can be recalled about the attitude object, people with high NTE form attitudes relatively independent of such recall (Tormala & Petty, 2001). Individuals high in NTE engage in considerable on-line information processing, relying on previous attitudes when asked to make judgments. People with low NTE are more prone to rely on memory-based information processing, when making evaluative judgments and are "more dependent on the information they can recall at the time the judgment is required" (Tormala & Petty, 2001, p. 1609).

Dual-screening can negatively impact information recall as watching the debate on TV and following discussions on social media simultaneously requires more mental resources for visual and verbal information processing. Previous research suggests that multitasking reduces memory performance and cognitive outcomes (Lang & Chrzan, 2015). Multitasking during dual-screening may restrict peoples' cognitive ability to process information, leading to cognitive overload and the reduction of information comprehension (Van Cauwenberge et al., 2014).

This line of thought is supported by two studies. First, Van Cauwenberge et al. (2014) found that second-screen viewing led to lower factual recall and comprehension of news content than single viewing. Second, a study by Gottfried et al. (2016) that examined specifically the effects of political debates found that, while those who dual-screened the political debate could recall more correct information about the debate

than those who did not watch at all, they did not retain as much knowledge as those who watched the debate without dual-screening.

Other studies have linked political content structure to increased cognitive load of political message processing that had a consequent impact on recognition and attitudes towards political candidates (Geiger & Reeves, 1991). Additionally, memory and information recall is enhanced when the information presentation is congruent. For example, Graber (1990) found that visual imagery that matched the narrative of the content enhanced information recall, as they both facilitate the retrieval process. Conversely, the potential discrepancies between narratives conveyed on television versus social media about the debate content (Trilling, 2015) may impede the retrieval of information.

This literature suggests that information processing is dependent on the interaction between the modality and structure of message presentation and the human motivation. People with low NTE lack evaluative processing goals and therefore might be less motivated to allocate resources for their controlled processing of the message. While we do not directly test for resource allocation and information overload in this study, this theoretical and empirical explanation provides grounds to expect differences on the effects of one screen versus dual-screening on people with low NTE. Overall, literature suggests that a) people low in NTE are more likely to be affected by the exposure to the debate on television than people with high NTE, and that b) dual-screening can have a “disruptive” effect on people with low NTE. Therefore, we pose the following hypotheses:

H₂: When exposed to the television debate only, individuals with low need to evaluate will exhibit greater change in their perceptions of candidate attributes than individuals with high need to evaluate.

H₃: When exposed to the television debate only, individuals with low need to evaluate will exhibit greater change in their attitudes toward the candidate than individuals with high need to evaluate.

Method

Participants

Participants were recruited from undergraduate communication courses at a large, public university located in the southwestern United States. Participation was voluntary and incentivized with a \$10 Amazon gift card. A total of 144 students participated in this study, with 51 participants viewing the second debate on October 9, 2016, and 91 participants viewing the third debate on October 19, 2016. About 68% (n = 97) of participants were female, while 32% (n = 45) were male. In terms of party identification, 53% (n = 76) identified as Democrats, 23% (n = 33) as Independents, and 22% (n = 32) as Republicans.

Although a student sample is not necessarily ideal, it is justifiable given the context of this research: dual-screening. Demographically, this is a phenomenon that happens more in younger audiences and so using a college sample was the most efficient way to ensure a sample that included an equally large group of users of Twitter as non-users. Furthermore, in a second order meta-analysis, Peterson (2001) found that although caution should be used with student samples, student samples often replicate general samples. Therefore, given that this is a study that relates to issues relevant to college students and younger individuals more so than their older counterparts, a college sample is justifiable even if not ideal.

Experiment Procedure and Design

The study was conducted on campus during the live, 90-minute broadcasts of the second and third presidential debates between Donald Trump and Hillary Clinton. Participants watched the debate on C-SPAN, which is generally regarded as a more neutral news outlet. Similar to Houston, McKinney, et al. (2013), participants were assigned to one of two groups according to their Twitter use. One group was asked to use Twitter while watching the debates on a big television screen. Participants in this group were selected if they had an active Twitter account and if they were frequent Twitter users. They were instructed to bring their smartphones, laptops, or other devices to connect to the Internet and actively follow the debate discussions on Twitter using the official hashtags of the debates (#Debate #Debates2016 #debatenight), while tweeting about the debate themselves.

In contrast, in a pre-screening survey, the television-only participants indicated to either not have Twitter accounts or not be active on Twitter. During the experiment, participants in this group were instructed to pack away any other devices and watch the debate on the television screen alone. Seventy-five experiment participants were assigned to the dual-screening group and 69 students participated in the television-only group, for a total of 144 participants. Responses from 2 participants were excluded because they did not complete the post-test survey.

Prior to the start of the debate, respondents completed an online pre-test survey that measured demographic information, independent variables, dependent variables, and other control variables. Immediately following the debate, participants completed a paper-and-pencil posttest questionnaire that measured the dependent variables. Studies in memory suggest that changing the modality of the pre- and post-test questionnaire can reduce priming effects, as can increased time between the measures (for a review, see Richardson-Klavehn & Bjork, 1988). Although it is impossible to rule out the possibility that responses from the pre-questionnaire could influence post-questionnaire responses, changing modes and the fairly lengthy debates themselves should minimize any possible influence.

Since the study design does not include a randomization process, we tried to secure internal validity by controlling the equal distribution of the relevant sample

characteristics between the experimental groups. See Table 1 for relevant information.

Measures

Candidate Attributes. Our attribute selection was guided by the model developed by Kinder (Kinder, 1986) and used in the American National Election Studies ("American National Election Studies," n.d.) during the last decades. These candidate traits fall into four categories—competence, leadership, integrity, and empathy—each having one or more dimensions. Empirical evidence suggests that these trait dimensions are good predictors of candidate evaluations, judgment and vote choice (Kaid & Chanslor, 1995).

Before and after the debate, participants were asked to what degree certain attributes applied to the political candidates on a 5-point scale (1 = *extremely well*, 5 = *not well at all*). The six attributes for each candidate—morality, leadership, caring, intelligence, knowledge, and honesty (adopted from the The American National Election Studies ["American National Election Studies," n.d.])—were reverse coded and combined into one component for each candidate (Trump: pre-test $\alpha = .88$, post-test $\alpha = .89$; Clinton: pre-test $\alpha = .89$, post-test $\alpha = .89$). Similar to Houston, Hawthorne, et al. (2013), attribute change was calculated by subtracting the posttest score from the pretest score, so that a positive value indicated improvement in candidate attribute perceptions over time and a negative score indicated a decline in attribute perceptions of candidates (Trump: $M = 1.19$, $SD = 3.14$; Clinton: $M = 2.60$, $SD = 3.10$).

Candidate Attitudes. Similarly, participants were asked to use the "feeling thermometer" (adopted from The American National Election Studies ["American National Election Studies," n.d.]) to indicate their feelings toward Donald Trump and Hillary Clinton, on a scale that ranged from 0 (*unfavorable*) to 100 (*favorable*). Participants were instructed that a response of 50 indicated neutral feelings. The feeling thermometer change score was calculated by subtracting the posttest score from the pretest score, so that a positive value indicated improvement in candidate feeling over time and a negative score indicated a decline in feeling about the candidate (Trump: $M = 1.73$, $SD = 14.39$; Clinton: $M = 9.21$, $SD = 15.99$).

Need to Evaluate. This study used the 5-item measure of need to evaluate developed by Jarvis and Petty (1996). These items ask respondents to rate, on a scale of 1 (extremely uncharacteristic) to 5 (extremely characteristic), to what degree the followings statements are characteristic of their personality: "I form opinions about everything," "It is very important to me to hold strong opinions," "It bothers me to remain neutral," "I would rather have a strong opinion than no opinion at all," and "I pay a lot of attention to whether things are good or bad." Responses were added in an index (Cronbach's $\alpha = .77$) with higher scores indicating higher need to evaluate.

Table 1.
Sample Distribution of Key Demographic and Control Variables

	Television Exposure	Television & Twitter Exposure	Group Comparisons
Gender			
Male	31.9%	31.5%	$\chi^2 = .002(1), p = .961$
Female	68.1%	69.5%	
Age			
< 20	30%	35%	$\chi^2 = 13.9(2), p = .304$
20–25	65%	61%	
> 25	5%	4%	
Race			
White	39.1%	39.1%	$\chi^2 = 5.27(1), p = .153$
Non-White	60.9%	60.9%	
Partisanship			
Democrat	52.2%	55.6%	$\chi^2 = .177(2), p = .915$
Republican	23.2%	22.2%	
Independent	24.6%	22.2%	
Political Interest*	1.93 (1.01)	2.14 (1.04)	$t = .965 (df = 140), p = .229$
Pre-Debate Trump Attributes*	11.59 (5.72)	10.71 (5.43)	$t = .201 (df = 140), p = .349$
Pre-Debate Trump Feelings*	21.78 (29.1)	19.00 (25.7)	$t = .827 (df = 140), p = .429$
Pre-Debate Clinton Attributes*	18.13 (5.29)	17.70 (5.88)	$t = .992 (df = 140), p = .647$
Pre-Debate Clinton Feelings*	47.66 (33.33)	53.15 (29.93)	$t = 2.369 (df = 140), p = .314$

Note. Values for gender, age, race, and partisanship groups represent percentages. *Values for political interest, pre-debate candidate attributes, and pre-debate candidate attitudes represent means with standard deviations in the brackets.

Control Variables. Control variables for this study included gender, race, partisan affiliation, campaign interest, and campaign knowledge. Partisanship was measured with a 7-point scale that ranged from 1 (*strong Democrat*) to 7 (*strong Republican*) [$M = 3.38$, $SD = 1.52$]. Political campaign interest was measured with a single question that asked respondents how interested they were in the 2016 presidential campaign (1 = *very interested*; 5 = *very uninterested*) [$M = 2.04$, $SD = 1.04$]. Similarly, campaign knowledge was measured with a 5-point measure about how informed participants were about the 2016 campaign ($M = 3.44$, $SD = 1.00$).

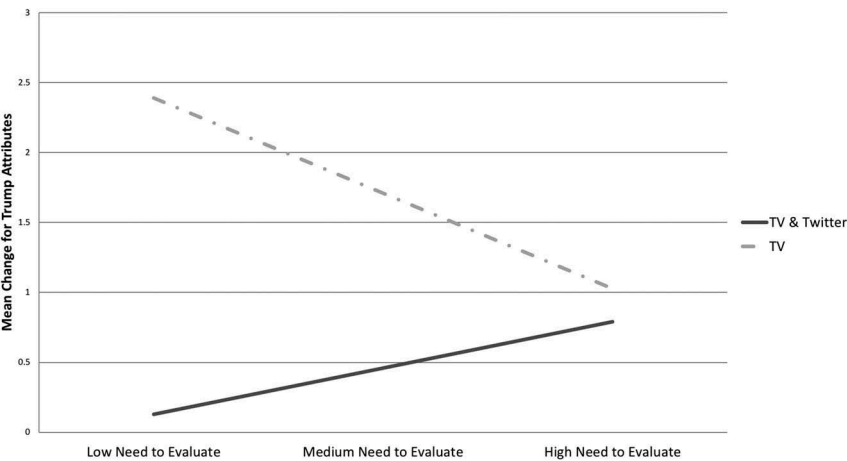
Data Analysis. First, candidate attribute change and candidate attitude change served as dependent variables in a series of one-way covariance (ANCOVA) analyses that tested the main effect of dual-screening for both candidates, while controlling for gender, race, partisan affiliation, campaign interest, campaign knowledge, and debate exposure (designated by the study condition). Second, candidate attribute change and candidate attitude change served as dependent variables in a series of moderated regression analyses that tested the interaction effect of dual-screening and need to evaluate. For these analyses, need to evaluate was centered prior to the calculation of the interaction term to avoid potential issues with multicollinearity (Aiken & West, 1991). The main effects analysis indicated the extent to which the screen exposure condition shaped the effects of the political debates on participant's perceptions of candidate attributes and feelings toward candidates. Results of the interaction effects address whether dual-screening the political debates was more or less likely to affect people with high need to evaluate versus low need to evaluate. Results of these analyses are shown in Table 3. The control variables were not significant for most of the analysis; therefore, they were omitted from the display.

The significant interactions were then further explored by conducting simple slope analysis that plotted the screen condition on the outcome variables for three values of need to evaluate: the mean, one standard deviation below the mean, and one standard deviation above the mean (Aiken & West, 1991) using ModGraph-I software (Jose, 2013). These results are displayed in Figure 1.

Results

Overall, the results of this study suggest that during the 2016 electoral campaign, political debates had a slight positive impact on participants' views toward the candidates as perceptions regarding the applicability of attributes such as morality, leadership, caring, intelligence, knowledge, and honesty to the political candidates slightly increased after the debate exposure. The results of our study indicate that the mean change for participants' perceptions of Clinton attributes ($t = -4.222$, $p > .000$) and their feelings towards Clinton ($t = -4.760$, $p > .000$) were statistically significantly different from Trump. Compared to Trump ($M = 1.19$, $SD = 3.14$), the

Figure 1.
Need to Evaluate Impact on Trump Attribute Change.



Note. the Figure Reports Predicted Levels of Attribute Perception Change for Trump, Given the Specific Values of Need to Evaluate while All Other Variables Were Fixed at Their Mean Values

mean change for Clinton attributes was slightly higher ($M = 2.60$, $SD = 3.10$), suggesting stronger effects for Clinton. Similarly, overall exposure to the debates resulted in slight positive change in participants' feelings toward both candidates, with higher changes observed for feelings toward Clinton ($M = 9.21$, $SD = 15.99$) than Trump ($M = 1.73$, $SD = 14.39$).

Our first two hypotheses predicted that exposure to televised debates alone will affect candidate attribute perception change (H_{1a}) and attitude change (H_{1b}) more than exposure to two screens. Both H_{1a} and H_{1b} were partially supported. First, two separate ANCOVAs were run with screen exposure as the between-subject factor and candidate attribute perception change as the dependent variable, resulting in significant main effect for Donald Trump ($F = 6.683$, $p = .01$), but not for Hillary Clinton ($F = .008$, $p = .93$). As predicted, the comparative attribute mean change for Trump was significantly higher for individuals exposed to the political debates on television (Trump: $M = 1.88$, $SD = 3.41$) than for participants dual-screening the debates (Trump: $M = .56$, $SD = 2.72$). In a similar fashion, ANOCVA tests with candidate feeling change as the dependent variable yielded significant main effects for Donald Trump ($F = 5.34$, $p = .02$), but not for Hillary Clinton ($F = .971$, $p = .326$). As predicted, the mean feeling change toward Trump was significantly higher for individuals exposed

Table 2.
ANCOVA Analysis Predicting Attribute and Attitude Change by Type of Screen Exposure Condition

	Political Debate Exposure	
	One Screen (TV) N = 69	Two Screens (TV & Twitter) N = 72
Mean Attribute Change		
Trump	1.88 ^a (3.411)	.53 ^b (2.724)
Clinton	2.67 (2.959)	2.53 (3.262)
Mean Feeling Change		
Trump	4.89 ^a (14.651)	-1.13 ^b (13.636)
Clinton	10.08 (13.700)	8.42 (17.866)

Note. Cell entries are means with standard deviations in parentheses. Means with different subscripts are significantly different ($p < .05$), reading column-wise.

to the political debates on television ($M = 4.89$, $SD = 14.65$) than for participants dual-screening the debates ($M = -1.13$, $SD = 13.63$) (see [Table 2](#)).

Further regression analysis suggested that dual-screening a political debate was, in fact, more likely to decrease participants' positive perceptions about Donald Trump's attributes ($\beta = -0.199$, $p = 0.02$) and their positive feelings toward Trump ($\beta = -0.194$, $p = 0.05$). The coefficients for the screen exposure variable were not significant for the outcomes for Hillary Clinton (see [Table 3](#)). Together, these analyses suggest that the effects of political debates on candidate attribute perception and attitudes toward candidates can be different for people who watch the debates on television alone, compared to those who dual-screen them.

The next set of hypotheses predicted that when exposed to the television debate only, individuals with low need to evaluate will exhibit greater change in their perceptions of candidate attributes (H_2) and greater change in their attitudes toward the candidates (H_3) than individuals with high need to evaluate. Our results offered partial support for H_2 and no support for H_3 . As the data presented in [Table 3](#) suggest, NTE was a significant predictor for Trump attribute perception change ($\beta = -0.277$, $p = 0.05$), suggesting that across both groups, people were more likely to change their perceptions about attributes that apply to Trump—after exposure to the debates—as their need to evaluate decreased. Moreover, we found a marginal interaction between screen condition and need to evaluate ($\beta = -0.207$, $p = 0.06$) for Trump attribute perception change, but not for Trump feeling change ($\beta = -0.074$, $p = 0.53$). Neither Clinton attribute change ($\beta = 0.067$, $p = 0.54$) nor Clinton feeling change ($\beta = -0.044$, $p = 0.69$) was found to be statistically significant.

The interaction effect was then further explored using simple slope analysis to estimate the predicted effect of screen exposure on Trump attribute perception change among high, medium, and low NTE groups. The data presented in [Figure 1](#) suggest that,

Table 3.
Moderated Regression Analysis Predicting Political Candidates' Attribute Perceptions and Attitudes by the Interaction of Screen Condition and Need to Evaluate

Dependent variables	Predictors	B	S.E.	β	p
Trump Attributes $R^2 = .066$	Dual Screen	-1.249	.533	-.199	.02
	NTE	-.681	.358	-.206	.05
	Dual Screen*NTE	.987	.326	.202	.06
Trump Feelings $R^2 = .022$	Dual Screen	-5.784	2.60	-.201	.03
	NTE	.144	1.758	-.010	.93
	Dual Screen*NTE	-1.170	2.607	-.052	.65
Clinton Attributes $R^2 = .078$	Dual Screen	-.073	.528	-.012	.89
	NTE	.233	.350	.076	.50
	Dual Screen*NTE	.398	.524	.062	.57
Clinton Feelings $R^2 = .078$	Dual Screen	-2.441	2.829	-.076	.39
	NTE	.204	1.879	.013	.91
	Dual Screen*NTE	-1.110	2.794	-.045	.69

Note. Screen, screen condition; NTE, need to evaluate.

among all groups, people with low NTE exhibited the highest change in their perceptions about Trump attributes, when exposed to the political debates on television alone. But, this same group exhibited almost no change when watching the debate on television screen while following the debate discussions on Twitter simultaneously. The difference between the screen condition groups for people with high NTE was not as steep (see [Figure 1](#)).

Discussion

This study extends previous research on the effects of political debates by examining the influence of new media platforms and engagement in dual-screening. It also explores mechanisms that might account for differences in effects by taking into consideration the personality trait "need to evaluate." The results suggest that during the 2016 elections, debate dual-screening and NTE were important moderators only for attitudes and feelings towards Donald Trump. There was a main effect of dual-screening on both Trump attributes and Trump feelings and a main effect of NTE on evaluations of Trump's attributes, but none for Hilary Clinton.

Confirming previous research on the importance of communication modality (Scheufele, Kim, & Brossard, 2007), the results suggest that dual-screening can exert a significant moderation role for debate effects on viewers' character evaluations of political candidates. After watching the 2016 presidential debates on television, participants had a slight positive change in their attribute perceptions

and attitudes toward both Donald Trump and Hillary Clinton. However, our data provide support to previous studies (Gottfried et al., 2016) that for some, the effects of the debates are weaker among those who dual-screened them.

These findings suggest that the use of a second screen may divert an individual's attention from overall candidates' debate performances and cause viewers to overlook important cues while trying to follow the activities unfolding simultaneously on TV and Twitter. Moreover, conversations on Twitter provide the audiences with contextualization for the information obtained via televised debates (Wang & Tchernev, 2012), while exposing them to potentially attitude-congruent information. The parallel discourses on Twitter can draw audiences' attention to particular candidate claims or images from the debate (Shah et al., 2016) while signaling to them how to respond and ultimately deflecting the overall impact of the televised debates (Nisbet & Kotcher, 2009; Pingree et al., 2012).

As dual-screening becomes more common among audiences, campaigns must be aware of how the practice may alter the way audiences perceive candidates. This may spur a need to craft new communication strategies tailored to individuals who view the debate on two screens and those with high need to evaluate, in hopes of courting more favorable perceptions. However, the results of this study suggest that the effects observed here might be contextual to specific campaigns and candidates. The findings were only significant for evaluations of Donald Trump, but not for Hillary Clinton, a particularly interesting outcome given the very close nature of the election and the small margin by which Donald Trump won the electoral process. There are two arguments that might provide explanations for these results. First, it is possible that the debate effects may only be apparent among political newcomers. While a prominent businessman and public figure, Donald Trump did not have a prior political record and was somewhat a novelty in the political scene, whereas Clinton had a long record of public service during her tenure as First Lady, Senator, and Secretary of State.

Second, the Twitter discourse during these debates and candidates' engagement with Twitter during the campaign might account for our results. Ranked as the most-tweeted day in the entire 2016 elections and the most tweeted debate ever, users sent more than 17 million debate-related tweets during the second debate between the candidates (Hall, 2016). The most commented debate moment occurred when Trump claimed to disagree with his running mate, Mike Pence, on the military intervention in Syria. The next two moments that lit social media discussions were when (1) Trump demonstrated a gentlemanly gesture by insisting that Clinton receive the first question and, (2) later in the course of the debate, he told her that "[she'd] be in jail" if he was in charge. Indeed, Trump's candidacy, which was marked with various controversies over the course of the campaign due to his inflammatory rhetoric, has generated more Twitter chat and might have prompted audiences to tune into his statements more intently during the debate. Moreover, Trump used the Twitter platform heavily to communicate with his supporters and fans during the campaign. Frequent users may have been used to seeing his tweets and discussions about his candidacy on Twitter.

The study also suggests that the moderating role of dual-screening might be dependent on the personality traits of the audience. Similar to previous research (Druckman & Leeper, 2012), we found that participants with low NTE expressed stronger positive attribute perceptions toward Trump, after exposure to debate content than people with high NTE. While participants with low NTE who watched the debates on television alone exerted higher positive change in their perceptions of Trump's attributes—than people with low NTE who dual-screened the debate—the latter showed almost no change in their perceptions of Trump's attributes. Hence, exposure to televised political debates alone might be more likely to effect individuals low in NTE—who rely on memory-based information recall and processing—when forming judgments. Exposure to the large amount of information produced on Twitter about Trump might have increased the information overload on people with low NTE—who arguably might not be as politically saavy—and had reduced ability to recall the debate information.

However, we call for caution in taking these findings as conclusive, given that we found marginally significant interaction effects of dual-screening and NTE for Trump attribute perception only. The results of this study did not support our hypotheses addressing the effects of dual-screening and NTE on audiences' attitudes toward the candidates. These results may be explained by the nature of the NTE concept and our simplified measure of attitudes. Specifically, the feeling thermometer is a single-item measure and a vague correlate to attitudes.

As noted, there are several limitations to this study that call for cautious interpretations of the results. First, the participants in this study were mainly young college students expressing a liberal political ideology, which make it hard to generalize beyond this social group. Participants might also have strong perceptions about Hillary Clinton prior to debate exposure, thus confounding the results of this study. Further significant limitations relate to the nature of the non-randomized experimental design, which might impact internal validity despite the similarities in demographic characteristics between groups and the failure to control for previous debate watching. Collecting data from a single debate would help improve future study designs.

In sum, this study reveals that dual-screening can impact how audiences judge candidate attribute traits due to their performance during televised presidential debates. Given our inconclusive results related to the interactive role of NTE, future studies should explore this and other psychological traits that provide a deeper understanding of how dual-screening affects information processing. Emerging real-time data collection technologies that incorporate Twitter content can be helpful in this regard.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Emotionally Charged: Exploring the Role of Emotion in Online News Information Seeking and Processing

Theresa M. de los Santos and Robin L. Nabi

This study examines how news stories framed in terms of discrete emotions (anger, fear, hope) influence online news message processing and information seeking. Results revealed that participants who read the approach emotion stories (anger and especially hope) spent more time on the story page than those who read the avoidant emotion (fear) story. These two emotional frames also differentially affected the information that people selected post-exposure in emotion-consistent ways. Overall, the findings deepen our understanding of the role that the emotional framing of news stories plays in determining how consumers respond to and selectively engage with online news content.

Research dedicated to understanding the role of emotion in news framing effects has accelerated in recent years. Shifting away from emphasis on cognitive processes, such research documents news frames' capacity to generate emotional responses (e.g., Kim & Cameron, 2011) that differentially influence opinions and behavioral intentions (e.g., Nabi, 2003), with particular attention to the mediating role of emotion (e.g., Feinholdt, Schuck, Lecheler, & de Vreese, 2016; Kühne & Schemer, 2015). With the increasing recognition that emotions are important to understanding news effects, researchers have emphasized the importance of developing integrated cognitive-emotional models of framing effects—to study a wider range of negative and positive emotions—as well as systems and styles of news delivery (Schuck & Feinholdt, 2015). Responding to this call, this research integrates two theoretical approaches to emotion and influence—the cognitive functional model (Nabi, 1999) and the emotion-as-frames model (Nabi, 2003) to examine

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the effect of three discrete news story-evoked emotions—fear, anger, and hope—in the online news environment.

The online news context is especially important to study, as it is rapidly becoming the most preferred way to access news (Gottfried & Shearer, 2017). Yet, news framing and emotion research has yet to consider the unique influence—to which emotional arousal in response to online news versus newspaper articles—may contribute. Compared to offline platforms, online news facilitates selective exposure to desired messages (Knobloch-Westerwick & Johnson, 2014). Indeed, online interactive news features provide immediate and unprecedented access to vast repositories of information and differing viewpoints, allowing audiences to play an active role in controlling the information they receive (Cappella, Kim, & Albarracín, 2015). Thus, online news provides an important context to study selective exposure. Although, selective exposure research has examined the influence of mood on information selection behaviors (e.g., Knobloch, 2003) and noted a general bias toward negative information (e.g., Kim, Forquer, Rusko, Hornik, & Cappella, 2016), the literature has yet to consider whether people systematically seek out or avoid certain types of information based on specific experienced emotions.

To address these gaps in the extant literature, this study investigates how online news stories framed in terms of anger, fear, or hope differentially influence not only message processing of a single story, but also information selection across stories. As such, this research can shed light on how emotional response to news stories influences audience navigation of online news sites and ultimately their news diet.

Emotion and News Processing and Effects

Emotion and Framing

A fundamental part of news reporting, frames are central organizing ideas that give meaning to issues and events (Gamson & Mogdilians, 1987). Although the vast majority of research explaining news framing effects has focused on its cognitive elements (e.g., Price, Tewksbury, & Powers, 1997), several studies document the existence and influence of emotionally evocative frames. Most such research examines the emotional responses evoked by different types of news frames. For example, episodic frames, which personalize issues by offering specific examples, have been found to elicit stronger emotional reactions than thematic frames, which place issues into a broader context (e.g., Gross, 2008). Relatedly, frames applied to specific issues, like affirmative action, have been linked to different emotional responses based on the policy features highlighted or downplayed in a message (Kinder & Sanders, 1990). Additional studies have further investigated how experienced emotions guide support for issues and policies (e.g., Nabi, 2003) and serve as the conduit for these effects (Feinholdt et al., 2016). More specific research shows

how the effects of frames on emotions depend on individual predispositions, like political values (Gross & Brewer, 2007), and, once experienced, specific emotions can intensify or diminish framing effects (Druckman & McDermott, 2008).

The Emotions-as-Frames Model

Most research on the persuasive and framing effects of emotions draws from cognitive appraisal theories, which conceptualize emotions as shaped by the way that individuals evaluate environmental stimuli relative to their goals (e.g., Lazarus, 1991). Negative emotions occur when circumstances are perceived as interfering with goal pursuit. Positive emotions result from the perception of opportunities for goal achievement. Considerable evidence shows that following appraisal, distinct emotions elicit distinct action tendencies. That is, when people appraise an event and thus experience a particular emotion, they become prepared to act in emotion-consistent ways.

Drawing from this perspective, Nabi's (2003) emotions-as-frames model (EFM) aims to explain the process of message-driven emotional arousal and subsequent outcomes. Rather than thinking of emotions as simply responses to messages, the EFM proposes that emotions are themselves frames, incorporated into messages via information associated with particular appraisal patterns. After exposure to emotionally framed messages, the subsequently aroused emotions then direct cognitive processing towards particular outcomes. As Nabi explains, emotion frames exist in messages through "appraisal-pattern signifiers" (2003, p. 242). Once the emotion associated with that particular appraisal pattern is evoked, the emotion's associated goals guide information processing, influencing what information is accessible, attended to, and paramount to attitude formation and decision-making.

In the initial test of the model, Nabi (2003) primed either anger or fear about drunk driving and examined how each emotion influenced information accessibility and decision-making. As expected, fear directed individuals to focus on societal causes and protective solutions and to prefer protection-related policies. Anger, however, directed individuals to focus on personal attributions and retributive solutions and to prefer retributive policies. These results are supported by Kim and Cameron (2011), who found the emotional frames of anger and sadness differentially influenced people's responses to news coverage of a fictitious corporate crisis, with angry news readers having more negative attitudes toward the responsible company.

Recent investigations have begun to consider the mediating role of experienced emotion on emotional frame effects. In multiple studies, including a direct replication of Nabi's (2002, 2003) work (Kühne & Schemer, 2015), the cumulative evidence demonstrates that emotional frame effects are mediated by the emotions elicited by those news frames in the context of car accidents, economic growth,

and immigration (Lecheler, Bos, & Vliegenthart, 2015; Lecheler, Schuck, & de Vreese, 2013).

This research suggests that the dominant emotions evoked by news coverage can have powerful consequences for how audiences relate to issues, the information they desire, and in turn, their behavioral choices. However, though these studies look at important outcomes of emotional framing, they have yet to examine the information processing factors that lead to the outcomes identified. This research fills this gap by incorporating a second theoretical perspective that speaks more directly to information processing issues: the cognitive functional model.

The Cognitive Functional Model

Nabi's (1999) cognitive functional model (CFM) explains how message-relevant negative emotions (as opposed to ambient mood states, which lack unique action tendencies) differentially influence the depth and direction of message processing and persuasive outcomes. The CFM posits that elicited emotions determine the course of message processing based on three constructs: motivated attention, motivated processing, and expectation of reassurance. First, the type of emotion experienced, approach emotion (e.g., anger) or avoidance emotion (e.g., fear), triggers a matched motivation to either continue to attend to or move away from the message content or topic. Along with this initial approach or avoidance response, there is simultaneous motivation to act in accordance with the emotion's associated action tendency, or emotion-induced goal.

As such, respondents should be willing to approach and process messages that might offer goal-relevant information (e.g., protection information if afraid, retributive information if angry). Thus, message processing depth and persuasive outcomes ultimately depend on a receiver's expectations of reassurance from the message. If reassuring cues are apparent, processing depth is directed by the emotion's baseline processing motivation (careful processing for approach emotions, less careful processing for avoidance emotions). However, if the availability of reassuring information is unclear, careful processing is likely, regardless of the emotion experienced. If no expectation of relief is present, message processing should terminate in favor of alternative information sources.

In the initial test of the CFM, Nabi (2002) examined the effects of two emotions (anger or fear) and two levels of message reassurance expectation (certainty and uncertainty) toward attitudes about domestic terrorism legislation. As predicted, anger promoted deeper information processing of the news story than fear, and uncertainty about message reassurance promoted closer processing than reassurance certainty. However, emotion type and message reassurance expectations did not interact as expected. Still, the CFM offers an interesting framework through which to consider the effects of discrete emotional reactions on news story processing and subsequent information seeking.

An Integrative Test of EFM and CFM

By integrating the EFM and CFM, we may derive a more complete view of how emotion-laden news coverage can influence information processing and subsequent information seeking. Specifically, the CFM explains how the approach or avoidance motivations associated with different emotions determine story processing depth. Further, both models suggest that different emotional responses to news stories will guide the subsequent news content that readers select and the resulting issue-related decisions they will make.

Although multiple emotions could be used to further test the EFM and CFM, this study focuses on anger, fear, and hope. Not only do they represent a range of emotions with different motivational goals, but of critical importance, all three are frequently emphasized in coverage of commonly occurring news events. Anger is a negative emotion elicited by perceived demeaning offenses (Lazarus, 1991). Thus, the attributions of responsibility and blame that are intrinsic to news events (e.g., government scandals, negligence resulting in harm) are likely to evoke anger. Although intense forms of anger are often associated with aggression, less dramatic manifestations of anger can elicit problem-solving behaviors (Averill, 1982). As such, anger is an approach-oriented emotion.

In contrast, fear stems from perceptions of imminent physical danger (Lazarus, 1991). Journalists gravitate toward coverage of issues and events depicting danger, such as health threats, accidents, and violent crime, which are likely to elicit fear (Shoemaker, 1996). Based on the desire for protection, fear stimulates surveillance, energizing humans to react to escape from threatening agents. Thus, fear is the prototypical avoidance-oriented emotion.

Finally, hope reflects the yearning for a desired outcome in the face of uncertainty (Lazarus, 1991). Hope is a future-oriented emotion in that it involves visualizations of positive future situations. Thus, news stories about, for example, medical breakthroughs or people overcoming obstacles are likely to evoke hope. Given that hope inspires action toward what one desires and is associated with perseverance in the face of adversity, it is well-categorized as an approach emotion.

Emotion and Online News Consumption

With the ever-increasing availability and use of online news platforms, it is imperative that researchers consider how emotions operate in this environment as they may influence not only message processing, but also, information selection and avoidance. Indeed, in the context of online news, the emotion generated by one story could readily influence the other stories people chose to read, and thus the range of information they receive. Although emotional reactions likely influence subsequent information exposure in off-line news contexts as well, the immediacy and interactivity of online news, coupled with the vast availability of information online, give online

users far greater control of their news consumption, allowing greater opportunity and ease to selectively manage the information they consume (e.g., Stroud, 2008).

Although contemporary selective exposure research has found that people select online political news information based on anticipated agreement (Knobloch-Westerwick & Lavis, 2017), the role of specific emotions—with their unique action-oriented motivations—has not yet been considered in the online news selective exposure process. The present research begins to fill this gap.

Of particular interest to this study are related story links, which give interested news readers ready access to additional information about story topics. Placed as embedded links within a story or in a sidebar box, these links allow news consumers to easily navigate toward or away from additional information. As a common online news story feature, such links offer a valid means of assessing how emotions evoked by news stories influence not only message processing itself (as predicted by the CFM), but also subsequent news story selection (as predicted by the EFM).

Hypotheses

Considering the EFM and CFM within the online news environment, we can make predictions about how emotions impact (1) information processing depth, (2) information seeking and selection, and (3) subsequent decision making in response to news stories. Regarding processing depth, according to the CFM's concept of motivated attention, approach emotions enhance willingness to engage in careful message processing, whereas avoidant emotions decrease processing motivation (Nabi, 1999). As to whether anger or hope would lead to deeper information processing, existing theorizing is unclear. The CFM specifies that anger would associate with closer information processing (Nabi, 1999, 2002). However, there is no direct discussion of hope's effects on information processing. Research on positive mood and persuasion (e.g., Isen, 1987) suggests that positive moods associate with more heuristic processing. Moreover, the broaden-and-build theory (Fredrickson, 1998) predicts that, as part of their adaptive function, positive emotions generally promote holistic processing and flexible thinking. Thus, hope might associate with less careful message processing. Yet, the experience of reading a hope-oriented story is likely to be more enjoyable and uplifting than reading an anger-oriented story. As such, audiences may prefer to engage with them longer. Thus, we posit:

H₁: Those who read an anger- or hope-framed (approach emotion) news story will engage in deeper information processing than those who read a fear-framed (avoidance emotion) story.

RQ₁: How deeply will readers process the information in the hope- or anger-framed stories?

Both the CFM and EFM predict that experienced emotions will guide subsequent information-seeking in predictable ways. That is, when it is present, people should select relevant information that meets the goals of the emotion that they are experiencing. Thus, we predict:

H_{2a}: Those exposed to an anger-framed online news story will seek out accountability- or retribution-related information, whereas those exposed to a fear-framed story will seek out protection- or prevention-related information, and those exposed to a hope-framed story will seek out positive-outcome-related information.

However, according to the CFM, when it is clear that sufficient reassuring information will not be offered and continued processing may intensify a negative emotional experience or diminish a positive one, readers will likely terminate message processing in favor of a different information source. Thus, if it is not clear that goal-relevant information is readily available (i.e., through a related story link), two possibilities emerge. First, news consumers, still driven to address their emotion-induced goals, will be drawn toward more neutral, topic-relevant stories, which would be the next most helpful as their neutrality may suggest a certain ambiguous potential to meet existing emotional needs. Second, without confidence that the other topic-relevant story links will adequately address their needs, they may choose to switch topic areas altogether. Therefore, we predict:

H_{2b}: For each emotion story group, when available related information links do not offer specific, goal-relevant information, participants will prefer more emotionally neutral, topic-relevant stories or stay away from the topic altogether.

Finally, if experienced emotions set particular emotion-consistent goals, then subsequent decision-making should be impacted. Thus, we predict:

H₃: Those exposed to an anger-framed story will prefer retribution-related policies, whereas those exposed to a fear-framed story will prefer protection- or prevention-related policies, and those exposed to a hope-framed story will prefer positive outcome-related policies.

Method

Design and Participants

This experiment employed a 4 (*Emotion Story*: anger, fear, hope, neutral) x 2 (*Emotion Goal-Relevant Information*: present vs. not present) x 2 (*Web site Browsing*: browse vs. no browse) between-subjects design. Following Institutional

Review Board approval, 452 undergraduate students (82.5% female) between the ages of 18 and 26 years ($M = 19.96$, $SD = 1.37$) participated in the study in 2014 in exchange for course extra credit.

Procedure

Upon arrival at the lab, each participant was escorted to an individual computer room. After completing a Web-based pre-test questionnaire, participants were logged in to the study's mock news Web site and directed to a page featuring a texting and driving news story pilot tested to evoke anger, hope, fear, or minimal emotion. After reading the story, respondents in the browsing condition were given 8 to 10 minutes to explore the news Web site by clicking links to related articles or the site's homepage that contained unrelated emotionally neutral articles. They then completed the post-test questionnaire. The no-browse condition participants read their assigned emotion story and then immediately completed the post-test.

News Website

The study Web site, enewspoint.com, was designed by a former major-market television and Web news producer. The emotional induction story was presented on a page divided into two columns. The target story appeared in the right column. In the left column were displayed six hyperlinked headlines under the title "Related Stories," which were used to assess emotion-driven information seeking (see Appendix). Special care was taken to preserve the original facts and details of all stories included on the Web site. Edits were made to equalize their lengths, remove dated information, and tweak related-story headlines. The emotion manipulation messages were between 354 and 355 words. The linked related stories were between 297 and 302 words.

Stimuli

Texting while driving was chosen as the focal issue because of its high relevance to the sample, and the likelihood of news stories on this topic being presented through different emotional lenses. Pilot testing was conducted to first, select news stories to accurately reflect the three emotion frames, and second, to select information hypothesized to be desired by people experiencing those emotions. Across three phases of pilot testing, 230 undergraduates read and evaluated the potential stories.

As shown in [Table 1](#), planned comparisons within an ANOVA indicated that the target emotion for each emotion-inducing story selected for inclusion—anger, hope

Table 1
Pilot Test Means for Emotion Induction Stories

Headline				
	Mother held on suspicion of texting while driving with baby in lap (Anger) (<i>n</i> = 23)	New car device could prevent up to 80% of distracted driving crashes (Hope) (<i>n</i> = 27)	Texting & driving worse than drinking and driving (Fear) (<i>n</i> = 23)	West Virginia legislators consider applying anti-texting laws to checking maps while driving (Neutral) (<i>n</i> = 22)
Anger				
<i>M</i>	4.78**	1.26	3.27	1.95
(<i>SD</i>)	(1.13)	(0.45)	(1.83)	(1.29)
Hope				
<i>M</i>	1.35	5.19***	1.36	1.64
(<i>SD</i>)	(0.65)	(0.88)	(0.90)	(1.00)
Fear				
<i>M</i>	3.61	1.52	4.77***	1.86
(<i>SD</i>)	(1.03)	(0.64)	(1.11)	(1.20)

Note. Mean difference between target emotion and other means in the same column is significant. *** $p < .001$, ** $p < .01$

or fear—was felt most strongly and significantly more than the other emotions assessed. The anger story emphasized the reckless actions of a mother who endangered her children by texting and driving. The fear story focused on the danger of texting and driving by reporting study results indicating texting while driving is more dangerous than driving drunk. The hope story presented the possibility of a positive outcome by describing a technological breakthrough involving a new vehicle communication system that could prevent future distracted driving accidents. The control story, which was minimally emotionally arousing, described out-of-state legislation proposing to update existing texting and driving law to include headset devices.

For the “related stories,” the two headlines with the highest means for each type of tested information were chosen for study inclusion. The anger retribution/accountability headlines were: “Tougher penalties proposed for texting drivers” and “Feds want stricter distracted driving rules.” The fear protection/prevention headlines were: “New apps help prevent texting while driving” and “Tips to avoid distracted driving.” The hope positive-outcome headlines were: “Fewer traffic deaths following California’s ban on hand-held cellphone use” and “Parental talks can make teens safer drivers.” In the “no goal relevant information” conditions, the two stories predicted to be most desired by people experiencing each emotion were replaced with neutral articles.

Measures

Emotion Manipulation. Two measures were used to check that the appropriate emotion was elicited in each emotion story condition. First, to briefly assess emotional arousal immediately after reading the main story, a pop-up survey appeared on the screen—when participants clicked a different link asking them to report how much of each emotion (anger, hope, fear, and sadness) they were feeling—on 5-point scales (0 = *not at all*, 5 = *a lot*). They were then immediately taken to the story they had selected. Second, in the post-test questionnaire, participants were directed to choose from a list of emotions (angry, frustrated, fearful, concerned, hopeful, optimistic, and neutral) the one emotion they recalled feeling most strongly while reading the emotion induction story.

Information Processing. Two measures were used as indicators of emotion-congruent information processing: exposure time and story detail recognition. Because exposure and attention are essential for news information to be processed and learned (Eveland, 2001), we assessed story time exposure, which served as a proxy for information processing. Specifically, the amount of time, in seconds, that elapsed between entering and leaving each page was recorded for each user and logged in to the database via PHP and JavaScript scripts. For the main emotion story, time spent on the pop-up emotion questions was deducted from the logged exposure time. The average time spent on the main stories was 118.58 seconds ($SD = 38.08$).

Next, because greater attention and deeper processing of news content should translate into more accurate short-term memory (Eagly & Chaiken, 1998), story detail recognition was measured with a four-item, multiple choice test. The response to each question was scored as either a 1 (hit) or 0 (miss). Each participant's percentage accuracy was then computed and collapsed across conditions ($M = .85$, $SD = .20$).

Information Seeking. To measure information seeking, each story and area of the site visited by each participant was logged via PHP and JavaScript scripts. In particular, the information sought by participants immediately after exposure to the emotion induction story served as a measure of most preferred information. A cut off of 3 seconds spent on a page was used to define information selection.

Policy Preference. Following Nabi (2003), two measures of policy preference were included. First, respondents were asked to assess (1 = *not at all*, 5 = *a great deal*) how much they would like to see each of 11 texting and driving policy initiatives enacted. Of these (based on a pilot test in which 20 undergraduates rated each initiative), three related to punishment and/or retribution, three related to protection and/or prevention, three related to positive reinforcement,

and two neutral items related to maintaining the status quo. The mean scores of each set of items were used as measures of desire for goal-relevant policies. Respondents were also asked to choose between three policy packages that contained three initiatives that all related to either retribution, protection, or a positive future.

Demographic and Control Variables

Several variables, including news consumption habits, use of online news features, perceived importance of texting and driving, and how often respondents themselves text and drive were assessed on the post-test questionnaire. Demographic and psychometric variables were selected for inclusion in analyses based on correlations with the dependent variables and their significance in the models.

Results

Emotion Manipulation Check

ANOVAs based on the continuous emotion measure taken immediately after message exposure suggested successful manipulations. A significant difference in aroused anger across the four groups (Welch's $F(3, 127.39) = 39.68, p < .001$) indicated that participants who read the anger story experienced significantly more anger ($M = 1.85$) than participants in the hope, fear, and control groups ($M = .27$), with a mean difference of 1.58 ($SE = .16$). Similarly, a significant difference in aroused fear across the four groups (Welch's $F(3, 133.37) = 34.40, p < .001$) illustrated that those in the fear group experienced significantly more fear ($M = 1.88$) than participants in the other three conditions ($M = .60$), with a mean difference of 1.28 ($SE = .17$). Finally, a significant difference in aroused hope across the four groups (Welch's $F(3, 133.02) = 23.93, p < .001$) demonstrated that participants in the hope condition experienced significantly more hope ($M = 1.91$) than participants in the other conditions ($M = .63$), with a mean difference of 1.28 ($SE = .16$). Of note, each target emotion was also significantly higher than sadness, another emotion often evoked by news (Kim & Cameron, 2011).

Cross-tabular analysis of the forced choice post-test emotion measure also suggested strong support for successful emotion manipulations ($\chi^2 (18, N = 451) = 690.73, p < .001$, Cramer's $V = 0.72$). Specifically, while 84% of participants who read the fear-framed message selected fear or concern as the strongest emotion felt when reading the story, 81% of the participants who read the hope-framed message selected hope or optimism. Likewise, while 66% of the

participants who read the anger-framed message selected anger or frustration, 61% of participants in the control condition selected "no emotion."

Emotion Type on Information Processing

H₁ predicted that stories framed in terms of approach emotions would promote deeper information processing than those framed in terms of avoidance emotions. A power analysis using the G*Power 3 program indicated 180 participants total would be needed to detect a medium effect ($p = .05$) with power set at .80.

For processing time, a 4×2 ANCOVA was performed with emotion story and Web site browsing as the independent variables controlling for age ($p = .04$). Results indicated a main effect for emotion story ($F(3, 401) = 8.20, p < .001, \eta_p^2 = .06$). As predicted, a complex contrast test showed processing time was sufficiently longer in the approach emotion conditions (anger and hope: $M = 126.08$) compared to the avoidance emotion, fear condition ($M = 107.56$), with a mean increase of 18.52 seconds, $p < .001$ (see Table 2). These results support H₁.

Percent accuracy across each emotion story condition on the multiple-choice test served as a second depth of processing measure. An ANOVA with emotion story and browse condition as the predictor variables yielded a significant main effect for emotion story, $F(3, 444) = 21.09, p < .001, \eta_p^2 = .13$. The anger group ($M = .94, SD = .13$) demonstrated more accurate story detail recognition than the fear ($M = .87, SD = .20, p = .003$), hope ($M = .81, SD = .19, p < .001$), and control ($M = .73, SD = .23, p < .001$) groups. Unexpectedly, the fear group evidenced greater accuracy than the hope group ($p = .04$, see Table 2). Overall H1 was largely supported. The approach emotion groups spent more time on the page and the anger group generated greater accuracy than the fear group, though the hope group did not.

In response to RQ₁, the hope story group spent more time engaged with their news story than the anger story group ($p = .03$). The hope group also spent significantly more time with their story than the control group ($p < .001$), though the fear and anger groups did not (see Table 2). Thus, it seems that only hope enhanced attention relative to neutral states.

Emotion Type and Information Seeking

H_{2a-b} predicted that experienced discrete emotions would guide the information that people subsequently seek out. A power analysis indicated that a sample size of 43.5 participants in each group would be needed to detect medium effects ($p = .05$) with the power level set at .80 using chi-square. For this analysis, we first consider those with access to goal relevant links and then those without.

Table 2
Information Processing Depth by Emotion Story

	Emotion Story			
	Anger	Hope	Fear	Control
Processing Time <i>M</i>	119.88 _a	132.28 _b	107.56 _c	108.90 _{ac}
(<i>SE</i>)	(4.12)	(3.89)	(3.99)	(4.49)
	(<i>n</i> = 111)	(<i>n</i> = 111)	(<i>n</i> = 115)	(<i>n</i> = 73)
Recognition Score <i>M</i>	.94 _a	.81 _b	.87 _c	.73 _b
(<i>SD</i>)	(.13)	(.19)	(.20)	(.23)
	(<i>n</i> = 122)	(<i>n</i> = 120)	(<i>n</i> = 126)	(<i>n</i> = 84)

Note. Means with different subscripts differ at $p < .05$.

Goal Relevant Information. Cross-tabular analysis revealed a significant relationship among the emotion story groups (anger, hope, fear, and control) and information selection (retribution/accountability, protection/prevention, positive-outcome, or other area of Web site) (χ^2 (9, $N = 183$) = 50.867, $p < .001$, Cramer's $V = 0.30$). As expected, the adjusted standardized residuals showed that of the four types of information, 51% of the fear group selected protection- or prevention-related information ($p < .01$); 44% of the hope group selected positive-outcome-related information ($p < .01$); and 55% of the anger group selected retribution-related information ($p < .01$). Although participants in the control condition sought protection- or prevention-related information with equal frequency, 32% of respondents in this condition chose to access another area of the Web site; this result was significantly more likely than expected by chance ($p < .05$, see Table 3), when compared to the emotion groups. These results combined support H_{2a} .

No Goal Relevant Information. When emotion goal-relevant links were not available for selection, a significant association between the three main emotion story groups and information type (emotion-related link, neutral-related link, or other area of the Web site) emerged (χ^2 (4, $N = 119$) = 12.444, $p = .014$, Cramer's $V = 0.23$). Overall, all three emotion groups were most likely to stay on topic. Respondents in the fear group (41%) and the anger group (49%) were most likely to go to a neutral texting and driving story. Counter to expectation, a majority of respondents in the hope group (56%)—a greater number than expected by chance—selected an emotion-related story, with 51% seeking protection or prevention information. The adjusted standardized residuals showed that only respondents in the fear group were significantly more likely than expected to move away from the story topic to another area of the Web site when desired goal relevant information was not available (31%; $p < .05$). Thus, H_{2b} was supported for the fear and anger groups, but not the hope group.

Table 3
Information Selection by Emotion Story

Information Type		Emotion Story			
		Anger (<i>n</i> = 44)	Hope (<i>n</i> = 43)	Fear (<i>n</i> = 49)	Control (<i>n</i> = 47)
Protection/Prevention	%	22.7 _b	30.2 _{ab}	51.0 _a	31.9 _{ab}
	Residual	-1.9	-.0.7	2.9	-0.4
Retribution	%	54.5 _b	9.3 _a	12.2 _a	27.7 _{ab}
	Residual	5.0	-2.8	-2.5	0.4
Positive Outcome	%	11.4 _a	44.2 _b	18.4 _a	8.5 _a
	Residual	-1.7	4.5	-0.4	-2.3
Other Site Area	%	11.4 _a	16.3 _a	18.4 _a	31.9 _a
	Residual	-1.6	-0.6	-0.3	2.4

Notes. Categories with different subscripts differ at $p < .05$. Adjusted residuals ± 1.96 indicates that the cell value is significantly different than expected, $p < .05$.

Emotion Type and Preferred Solutions

H₃ predicted increased support for particular types of solutions based on exposure to different emotionally framed stories. ANCOVA results generated with applying emotion story group and browse group as the predictor variables and the continuous policy assessment measures as the dependent variables (controlling for personal issue importance, $p < .001$, and texting and driving frequency, $p = .003$) indicated that the emotion groups did not differ in their desire to see goal-relevant policies enacted (retributive policies, $p = .63$; protection/prevention-oriented policies, $p = .60$; positive reinforcement-related policies $p = .63$). No main effects for Web site browsing ($p = .17 - .85$) or significant interactions between the two predictors emerged. Additional analyses using felt emotions rather than story condition as the predictors produced similar results.

The cross-tabulation analysis of the policy preference forced-choice item, however, did reveal an overall significant association between emotion story group and preferred solution package ($\chi^2 (6, N = 452) = 29.070, p < .001$, Cramer's $V = 0.18$). As expected, the adjusted standardized residuals indicated that 54% of the fear group preferred solutions aimed at protection and/or prevention, which was greater than expected by chance ($p < .001$), when compared to the other emotion groups and the control group. A majority of the hope group (62%) supported positive reinforcement-related policies, which was also greater than expected by chance ($p < .01$), though not significantly different from the anger group in their selection of this policy story. Finally, the anger group did not show a preference for retribution policies; instead, participants in the anger group showed a preference for positive

reinforcements (54%), as did the control group (57%). As such, it appears that fear shifted preference away from support of positive rewards to protection and prevention-related solutions. In sum, the data for the fear and hope groups offer support for H_3 , but the anger group did not.

Discussion

This research aimed to advance the emotional framing literature by examining not only the influence of both positive and negative discrete emotions on information processing and decision-making, but also how emotional frames influence later story selection in the context of online news. Consistent with Nabi (2002), the anger group promoted deeper message processing than the fear group, as evidenced by more time spent on the story and better story detail recognition. Interestingly, the hope group generated the longest processing time, though the worst story detail recognition. In contrast, the fear group had the shortest story time, but significantly better information recognition than the control group, though not better than the anger group.

Given these findings, it is clear that different emotional frames differentially influence message engagement. The anger story generated the most focused attention. The fear story prompted relatively focused and efficient processing. The hope story captured longer, but less focused attention. This latter finding is consistent with Fredrickson's (1998) broaden-and-build model, which suggests that positive emotions signal safety in the environment and, in turn, allow for more open modes of thinking. Thus, the data for the negative emotion story groups are consistent with the CFM (which focuses on negative emotions), and the data for the hope story group are consistent with the broaden-and-build model.

Regarding information selection, as expected, the anger group sought out information about harsher punishments for people who text and drive, the fear group sought information about ways to prevent texting and driving, and the hope group preferred information focused on positive outcomes. Together, these findings support the CFM and EFM-based predictions that emotion-induced goals guide the information that people selectively seek out and are willing to process. Although these predictions have been supported previously for fear and anger with self-report intention measure (Nabi, 2003), these findings extend to information selection across multiple stories and are based on actual selection behavior. Further, this research provides initial evidence for the impact of hope, which had not previously been tested in the news information-seeking context.

Interestingly, when goal-relevant information was not available, the majority of participants in all three emotion conditions stayed on the story topic, with most participants in the fear and anger groups selecting a neutral story about texting and driving and most participants in the hope condition selecting a protection or prevention story. These results support the notion that emotional frames in news

stories direct attention in somewhat predictable ways. Emotionally evocative stories keep readers engaged with the topic, even when the information they may most desire is not available. The pattern for hope, however, was different from anger and fear in that this group focused on the protection/prevention hyperlinks rather than neutral ones. Because the CFM was designed to explain the effects of negative emotions, it is likely that the notion of reassurance does not apply in the same way to positive emotions. Rather, the hope group appeared to select information that would be unlikely to interfere with their positive state, and might even enhance it.

Finally, regarding policy preference, the forced-choice item yielded some expected differences. The fear group preferred protective solutions relative to the anger, hope, and the control groups. Further, the hope group preferred positive reinforcement solutions. However, both the anger and control groups also demonstrated preference for positive reward-related policies, with the hope frame simply serving to magnify this inclination. This anger finding may be the result of the sample and study topic. Despite recognizing the danger, 73% of college-aged adults admit to texting while driving (U.S. Department of Transportation, 2012). Thus, perhaps issue-related anger was not enough to push this sample to prefer punitive policies that they themselves might face. This suggests that the baseline orientation of the sample in this context was based on rewarding good drivers, not punishing wrong-doers, and only the fear frame served to reverse this preference.

Overall, there was solid support for differential influence of discrete emotional frames on information processing and information selection, and some evidence of differential effects on policy preference. These findings, however, should be interpreted in light of the study's limitations. First, though our findings are largely consistent with the EFM predictions, the study's generalizability is constrained given the single-topic study design. Second, though enewspoint.com replicated authentic news Web sites in both layout and scrolling and clicking functions for accessing news, its constraints in content and navigation outside the site (necessary for the experimental design) precluded fully replicating the real-world online news searching environment. Relatedly, the pop-up measurement of emotion after reading the target story might suggest a disruption that could affect external validity. However, given pop-up windows occur frequently during online browsing and participants received the questionnaire *after* clicking on their first desired related story link, this study element was unlikely to influence our findings.

Similar to previous research, our processing measures focused on exposure and content recognition. Although compelling for its surreptitiousness, time spent on a story does not guarantee attention or elaboration of story details. Still, time spent and detail recognition combined likely give us a good indicator that processing occurred.

Additionally, our sample skewed younger than avid news consumers (Kohut, 2013). This concern is somewhat mitigated by the fact that drivers under age 24 are more likely to text while driving, and they report the highest level of cell phone use at the time of a crash compared to all other age groups (U.S. Department of

Transportation, 2012). Thus, though younger people may consume less news, they likely use online news when they do, and the topic of the study was highly relevant to the participants.

Finally, while our effects model assumed a multi-step process in which exposure to certain news frames induces particular emotional reactions that, in turn, influence information processing and ultimately selective information searching and judgment formation, this study was not designed to test mediation as information processing and story selection, not emotional arousal, were the measurement priorities. Although past research has documented the mediating role of emotion (see Feinholdt et al., 2016), more research is needed to determine when framing outcomes are mediated by particular emotional reactions.

Despite these limitations, this study's findings suggest an important role for discrete emotions in influencing not only consumers' cognitive engagement with particular news stories, but also their navigation of online news Web sites. Future research should attempt to replicate these findings across a range of stories and topics, including health and political news, and examine how emotions influence other online news activities, including watching related video clips, participating in online polls, and news story sharing. Future research would also be well-served by considering other emotional states commonly evoked by news content, including sadness and compassion, as well as blended emotions in and across news content. The EFM assumes that one emotion dominates each emotion frame, and in shorter news stories this may be likely. However, longer stories, especially those that attempt to offer balanced accounts of an issue, likely contain mixed-emotion frames. Studies are needed to determine if emotional framing effects can be found when different perspectives, and thus emotions, on an issue are presented together.

Ultimately, this research advances the emotion and framing literature in ways both theoretical and practical. Theoretically, these findings support the CFM and EFM as useful frameworks through which to consider online news processing and searching, and in light of the interesting findings associated with hope, suggests developing the CFM with positive emotions in mind may prove fruitful. Practically, this study documents that when advertising dollars depend on the amount of time consumers spend on a news Web site, news professionals may find that moving away from reliance on negative, fear-framed stories to include more positively framed, hope-inspiring stories, may serve their goals well. Further, this research suggests that providing emotion-consistent related story links may also help maintain audience viewership. If news professionals are knowledgeable about the motivations connected to specific emotions, they can give consumers the information they desire and will have a better chance of keeping their attention. However, given journalism's central purpose of providing citizens with accurate and reliable information to function in and advance their communities (Kovach & Rosenstiel, 2007), we hope that instead of arousing emotions simply for the sake of profits, emotions would be productively used to increase content quality, which would be mutually beneficial for both news outlets and audiences.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix: Sample Page (Fear—Goal Relevant Information Condition)

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The Influence of Female Lead Characters in Political TV Shows: Links to Political Engagement

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The Influence of Female Lead Characters in Political TV Shows: Links to Political Engagement

Jennifer Hoewe^{ID} and Lindsey A. Sherrill^{ID}

This study examined political television dramas with lead female characters, proposing a model that links viewing of these shows with political engagement. A survey revealed that regular viewers of Madam Secretary, The Good Wife, or Scandal reported feeling transported by these programs' narratives and parasocial relationships with the main characters (i.e., women in positions of political leadership). These responses were also related to increases in political interest and self-efficacy, with interest predicting real-world political participation. The findings illustrate that these political dramas have prosocial implications, including the non-stereotypical representation of women as well as increased political engagement among viewers.

In recent years, several political television shows have gained widespread popularity. These political dramas not only boast the attention of millions of viewers, but some also feature women in lead roles. Such shows have drawn diverse audiences, including then-U.S. presidential candidate Hillary Clinton, who, during a visit to *The Late Show with Stephen Colbert* in 2015, talked about the TV shows she enjoyed watching. She specifically mentioned tuning in to *Madam Secretary* and *The Good Wife*. The following year in a televised interview on CNN, Clinton stated she was sad to see *The Good Wife* come to an end, but was looking forward to the next season of *Madam Secretary*. Given the lack of representation of women leaders in television, particularly in non-stereotypic roles (Signorielli & Bacue, 1999; Sink & Mastro, 2017), these female-led political TV shows provide unique areas for media analysis. In fact, it is possible that political dramas with lead female characters may do more than simply entertain viewers; they may lead to connections with those characters and eventually impact viewers' real-world political engagement.

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Television viewing and its effects on opinion formation and political viewpoints have been regularly explored in recent years (e.g., Holbert, Hill, & Lee, 2014; Jones, 2006; Moy & Scheufele, 2000; Swigger, 2017; Weinmann, 2017). After the 2004 U.S. presidential election, political entertainment television, in particular, became a focus of discussion (Holbert, 2005). Recent research has made the case that entertainment television, including fictionalized political drama, has the same—and possibly greater—effects as news content. To further explore this line of research, this study examines the effects of political dramas, specifically those featuring women in lead roles. Each of the shows considered in this study—*Madam Secretary*, *The Good Wife*, and *Scandal*—has amassed a large viewership while also featuring women in positions of political power and leadership. This study will determine if feelings of connectedness with the shows and their lead characters can lead to increased levels of real-world political self-efficacy, political interest, and eventually political participation.

Political Dramas' Effects on Knowledge and Opinion

When considering the potential influence of political dramas, prior research has revealed some initial evidence of their effects. To start, Gerbner, Gross, Morgan, and Signorielli (1984) found that drama could be a significant contributor to viewers' political orientations and understandings. While selective exposure must always be considered in the media effects of political information, "all individuals rely at least partially on fictional portrayals of political events and actors in the construction of their political realities" (Holbrook & Hill, 2005, p. 291). And these political issues do not have to be explicitly presented to be influential on viewers. Holbert (2005) referred to the storylines that present potentially political issues (abortion, gender roles, interactions with law enforcement, etc.) as part of everyday life rather than the entire focus of a plot as "lifeworld content." This content may influence the audience to think about political policies without viewing them as inherently political.

A wide range of methodological approaches has been used to study the influence of political dramas. One focus group study found that in discussions of a politically sensitive topic, participants referenced fictional and nonfictional programming in the same manner and with the same frequency (Delli Carpini & Williams, 1994). Other work found that fictional representations of political figures—such as presidents—had the effect of humanizing the subjects and creating emotional connections with the audience (Phalen, Kim, & Osellame, 2001). An analysis of the popular television drama 24 showed evidence of several ways that the political drama became part of larger political discourse (Tenenboim-Weinblatt, 2009). First, President Bill Clinton mentioned 24 as one of his favorite shows. Then, in 2007, Supreme Court Justice Antonin Scalia cited the series' main character, Jack Bauer, when discussing the fight against terrorism. Also, during the 2008 presidential election, the show was referenced in debates and by journalists covering the candidates as a proxy for discussions about torture and treatment of terrorism suspects (Tenenboim-Weinblatt, 2009).

Experimental research also has found links between fictional content and political attitudes, particularly when participants felt empathy toward fictional characters (Mutz & Nir, 2010). Two experiments, in 1995 and 2000, found significant effects on approval ratings for both U.S. presidents Bill Clinton and George W. Bush after participants were exposed to episodes of crime dramas (Holbrook & Hill, 2005). Williams and Delli Carpini (2002) concluded that “the political relevance of a cartoon character like Lisa Simpson is as important as the professional norms of Dan Rather, Tom Brokaw, or Peter Jennings” (p. B15). In fact, entertainment content on television may include elements of greater intensity than news shows, at least partially due to the amount of time spent exploring politically complex issues (Holbrook & Hill, 2005). Exposure to an issue may be more frequent due to the formatting of episodes; while an issue may not appear in the news cycle often, viewers will be reminded of it on a regular basis as part of an ongoing plotline. Additionally, a more recent study found that even limited exposure to a fictional political message (in its experiment: watching a movie) could significantly change viewers’ willingness to believe in a political conspiracy or corruption (Mulligan & Habel, 2013).

Even in 1982, Gerbner et al. pointed to the mainstreaming effects of heavy television viewing (defined as more than two hours a day) on political opinion. Heavy viewers tended to classify themselves as more moderate—liberals became less liberal and conservatives less conservative—as they watched more television. By 2009, Tenenboim-Weinblatt found that light and heavy viewers no longer separated neatly along ideological lines, as Gerbner, Gross, Morgan, and Signorielli (1982) had found (possibly because two hours was no longer seen as “heavy” viewing by most researchers). A 2006 study supported the idea that television drama can influence the opinions of participants on politically controversial topics, but the strength of the effects was dependent both on preexisting ideology and the transportation of the narrative (Slater, Rouner, & Long, 2006). Subsequent research revealed that even when viewing political drama did not change one’s specific ideology, the program did change the audience’s interpretations of the issue (Tenenboim-Weinblatt, 2009).

When considering political knowledge among individuals less interested in politics, Bartsch and Schneider (2014) concluded that emotional connections with entertainment content can work to create baseline levels of issue awareness and knowledge. Swigger (2017) focused on lifeworld content in situational comedies and suggested that the presentation of issues like rape, abortion, and gender norms could activate viewers to consider their political opinions in non-explicitly political ways. Garretson (2015) perhaps made the strongest claims of the possible effects of television viewing on political and social opinion. Based on findings of opinion shifts (between 5% and 14% in heavy television viewers), he wrote “[Television] has the potential to be used to increase political tolerance and eliminate racism, sexism, and heterosexism” (Garretson, 2015, p. 630).

Depictions of Women in Television

Relating specifically to the content of this study, research on the representation of women in television and the effects of these representations shows very little change over time. One study found significant evidence to suggest that heavy television viewers were more likely to have more sexist views, even when controlling for societal attitude changes (Signorielli, 1989). The analysis showed an “aggregate image of conventionality, tradition, and status quo” for gender roles and that women who did not fit that image were outliers on prime time (Signorielli, 1989, p. 358). Revisiting the study 10 years later showed that gendered stereotypes on television still had no grounding in actual demographics (Signorielli & Bacue, 1999). Out of examined 8,000 characters over 30 years, women represented only 34.5%, with a peak of 43% in 1996.

Women’s television roles were still largely confined to dramas and situational comedies, and their occupational status was likely to be linked to their marital status (Signorielli & Bacue, 1999). While slight improvements have been made since Signorielli’s original analysis, a recent study found that women are still only 39.6% of prime time television characters (only a 0.6% increase since the 1990s) and are still confined to roles emphasizing sexuality, beauty, gender-stereotypical occupations, nurturing, and less aggression (Sink & Mastro, 2017). The authors concluded that “heavy viewers of primetime internalize notions of female submission, male dominance, and hypersexuality” (Sink & Mastro, 2017, p. 17).

Although the present representations of women in television leave much room for improvement, the shows that attempt to feature strong lead female characters ought to be studied to determine their possible unique impact on viewers’ attitudes. It is possible that television shows that feature a lead female character could have positive influences on the audience. Since political dramas that feature women in starring roles, such as *Madam Secretary*, *The Good Wife*, and *Scandal*, are still limited in number, the aggregate analyses of television shows may not do enough to discern the impacts of these types of shows. Because of their uniqueness and strong viewership, this study will examine how viewers respond to political dramas featuring lead female characters to determine any attitudinal and behavioral changes among viewers.

The Role of Transportation and Parasocial Relationships

There are several communication theories that may explain why fictionalized political drama affects viewers in ways news does not. One such theory is narrative transportation (Appel, Gnambs, Richter, & Green, 2015; Green & Brock, 2000; Mutz & Nir, 2010; Slater et al., 2006). Transportation is the mental process of entering the world of the narrative, and it may account for effects on opinions, as viewers in a transported state are less likely to counter-argue the ideas presented in

the narrative. Slater et al. (2006) found that while transportation alone may not overcome strongly held ideological positions, the more a narrative engrossed viewers, the more persuasive its message became.

Green and Brock's (2000) research also cited transportation as a factor in what earlier researchers had termed *anomalous replotting*. Anomalous replotting occurs when viewers ask themselves "what would I do in this situation?" and is related to the concept of autonomy that Wirth, Hofer, and Schramm (2012) found for eudaimonic entertainment. Transportation may also lead to the same reactions and emotions as personal experience, therefore influencing the effect of the narrative's messages (Green & Brock, 2000). As an example of transportation's possible effects on political policy views, Gillig, Rosenthal, Murphy, and Langral Folb's (2017) study of television storylines about transgender characters found significant links between narrative transportation and opinions on policy toward transgender individuals.

Additionally, viewers' relationships with the characters in television shows can influence effects on their attitudes and potentially even behaviors. Transportation may lead to greater sympathy and identification with characters (Green & Brock, 2000). While parasocial relationships are not necessary for viewers to be influenced by or develop relationships with characters, they can strengthen both effects (Giles, 2002). Bartsch and Schneider (2014) wrote that "a sense of personal relevance can be vicariously experienced in the context of parasocial interaction with media characters" (p. 378). Individuals form one-sided relationships with characters through prolonged exposure, possibly over the course of a series. These parasocial relationships involve both affinity (feeling social or physical attraction) and perceived intimacy (parasocial interaction) with characters (Rubin & McHugh, 1987). In Rubin and McHugh's (1987) study, social and task attractiveness were found to be more important than physical attractiveness, suggesting that the perceived job competence of dramatic characters may be a factor in the development of parasocial relationships.

Parasocial interactions involve the same cognitive processes as interpersonal communication and may lead individuals to imagine conversations ("How would I respond to this character in this situation?") or to emulate behaviors, including trying to look more like a character (Giles, 2002). In fact, Rubin and Perse (1987) found that "parasocial interaction may be a functional alternative to interpersonal interaction" (p. 264), suggesting that the "communication" between viewers and fictional characters with which they have affinity may have the same persuasive power as conversation with a real person. Scharfel Dunn (2017) applied concepts of both parasocial interaction and narrative transportation to political attitudes. While the study looked at the effects of watching political commentators rather than fictional characters, it does provide evidence of significant links between transportation, parasocial interaction, and viewers' political ideology and behavioral intentions toward political action.

The present study begins by seeking to understand how viewing of political television shows with lead female characters relates to transportation and parasocial relationships, ultimately influencing political engagement. It will illustrate the potential impact of featuring women in leading—non-stereotypic—roles in

political dramas. If viewers are able to become transported into the character's world and develop a parasocial relationship with that character, this process begins to illustrate the impact and necessity of the depiction of strong women in political television. This dynamic would show that the significance of these shows may lie in their abilities to connect with a neglected, largely female audience; it may also work to counter the stereotypic presentations frequently found in television (Sink & Mastro, 2017). As such, the first set of hypotheses uses the aforementioned research to predict that increased viewing of these political dramas will lead to increases in both transportation and parasocial relationships:

H₁: Viewing of political television shows with lead female characters will lead to increased feelings of transportation.

H₂: Feelings of transportation, resulting from the viewing of political television shows with lead female characters, will lead to increases in parasocial relationships.

Political Drama's Effects on Political Engagement

Research has found that viewing of "social dramas"—defined as depicting themes of crime and justice either explicitly or implicitly politically—predicted community participation differently than other genres of entertainment television (Shah, 1998). Shah (1998) also found that community and civic engagement leads to greater interpersonal and social trust. Moreover, Besley (2006) concluded that when viewing lowered *institutional trust* (i.e., trust in courts or police), viewers were more likely to get involved locally. These ideas coalesce with Moy and Scheufele's (2000) work, where they concluded that social trust is linked to political efficacy, political participation, and political trust, and that social trust is influenced by media consumption.

Television drama may affect political interest, efficacy, and participation even when the storyline is not overtly political. Besley (2006) noted examples of this effect across genres. A cartoon, like *The Simpsons*, may portray public meetings and protests, while *The West Wing* shows political life entwined with private life. Even reality television programs offer examples of voting behavior and influence attitudes toward fellow citizens. Existing research shows that fictional television shows, events, and characters "can trigger political debate and can later be used in various discursive contexts to articulate political positions, explain political processes, or influence public opinion" (Tenenboim-Weinblatt, 2009, p. 381–382).

But at what point does television viewing begin to alter political participation? A study of entertainment television viewing argued that cognitive—rather than time—displacement was most important in determining the effects of viewing on political participation (Besley, 2006). Moderate viewing of political content keeps issues salient for viewers, possibly leading to a greater desire for involvement (Besley, 2006). More recent explanations of entertainment effects on political participation include media system

dependency theory (Groshek & Krongard, 2016). Groshek and Krongard's (2016) study examined online streaming viewers of both apolitical and political dramas and compared levels of online and offline political participation. The highest effects in participation were found for viewers who binge-watched political television, in line with previous findings that political entertainment affects participation by keeping political issues salient. Other research suggests that political opinion formation and physical political participation should not necessarily be viewed as separate categories, as creating cognitive schemas to understand and interpret political topics while watching is itself a form of participation (Jones, 2006).

The dual-process model of entertainment experience suggests that political information in entertainment serves both hedonic and eudaimonic cognitive functions (Bartsch & Schneider, 2014). This model builds upon research by Oliver and Bartsch (2010), showing that entertainment that is both "fun" (hedonic motivation) and "thought provoking" (eudaimonic motivation) creates lasting impressions on viewers. Television programming that serves both motivations was found to lead viewers to an emotionally aroused affective state, which led to reflective thought and issue interest and, eventually, motivated information seeking. Bartsch and Schneider (2014) contended that "the effect of a moving entertainment stimulus on cognitive elaboration about politically relevant issues is not only confined to the entertainment stimulus per se, but also tends to generate interest in other, hard-news oriented types of media content about the same issue" (p. 382). Experimental research by Weinmann (2017) echoed these results, finding that political entertainment experiences which stimulated both eudaimonic and hedonic motivations could provoke greater interest in political issues. Other researchers cautiously related an increased sense of *autonomy*—defined as control or efficacy over one's situation—and *activation of central values* in viewers of eudaimonic entertainment stimuli (Wirth et al., 2012). These effects could partially explain how political dramas may lead viewers from political interest and self-efficacy (Knobloch-Westervick & Meng, 2011; Kushin & Yamamoto, 2010) to eventual real-world political participation (Campbell & Kwak, 2010).

As such, this study will examine how these shows' influence on transportation and parasocial relationships is related to political engagement (as measured through political interest, self-efficacy, and participation). The next set of hypotheses seeks to illustrate that the importance of women-led political dramas moves beyond simply providing entertainment. They predict that the relationships formed with these lead female characters can translate into real-world political interest and self-efficacy:

- H₃: The transportation experienced and parasocial relationships formed during viewing of political television shows with lead female characters will lead to increases in political self-efficacy.
- H₄: The transportation experienced and parasocial relationships formed during viewing of political television shows with lead female characters will lead to increases in political interest.

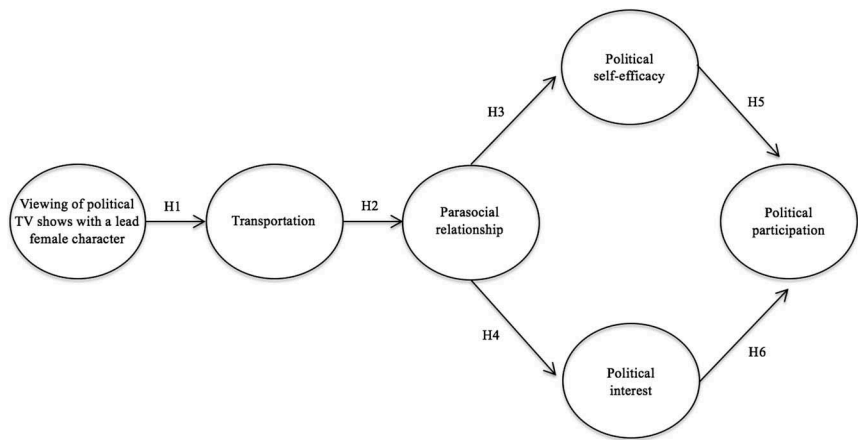
Groshek and Krongard (2016) found significant relationships between streaming of both apolitical and political television and levels of political efficacy and participation by measuring variables such as voting behavior and engaging in political conversation. Shah (1998) also related political entertainment consumption to political efficacy and participation, but argued that efficacy could come from the perceived increase in social capital that viewers felt *after* participation. Jones’s (2006, p. 378) examination of political participation suggested that consumers of political entertainment live in a “culture of political engagement,” where information seeking, efficacy, and participation are a part of the full entertainment experience. That said, an increased interest in politics—as well as a spike in political self-efficacy—should translate into an increased intention to participate in political activities. The last two hypotheses predict that the final step of the model will include increases in political participation:

H₅: Increased levels of political self-efficacy will lead to increases in political participation.

H₆: Increased levels of political interest will lead to increases in political participation.

Figure 1 illustrates the anticipated relationships in this study and presents the model that will be tested.

Figure 1
Hypothesized Model



Method

This study examines the impact of three particular television shows, *Madam Secretary*, *The Good Wife*, and *Scandal*. The selection of these particular political dramas was based on several factors. Each of these programs has a political focus, a strong lead female character, and an active and accessible fan base. Sink and Mastro (2017) specifically identified *Madam Secretary* and *Scandal* (as well as *How to Get Away with Murder*) as “notable outliers” on prime time television and wrote that “these examples seem to represent the exception and not the norm in primetime programming” (p. 16). *The Good Wife* was called “one of the most feminist shows currently on television” by *Ms.* magazine in 2010 and praised for its “strictly female point of view” (Leonard, 2014, p. 945). *Scandal* has been the focus of the most academic critiques of the three dramas, much of which focuses on the intersection of race, feminism, sexuality, dominance, and politics (Filoteo, 2014). Filoteo (2014), Gilbert (2014), and McNair (2014) all suggested *Scandal* as a candidate for further analysis. Shows such as *Scandal* and *The Good Wife* also fit within fictional political drama and lifeworld content typologies (Eilders & Nitsch, 2015; Holbert, 2005), which dramatize and address true-to-life political issues such as police brutality (Murphy, 2017).

Study Sample

A survey was conducted to determine the influence of these shows on viewers, particularly in terms of political engagement. Given this study’s focus on political television shows with lead female characters, individuals who watch these shows were targeted to complete the study. Respondents were recruited from the sub-Reddit pages dedicated to each particular TV show as well as other fan forums focused on each show. Each of these sub-Reddit pages and fan forums was devoted specifically to one of the shows considered in this study. Only fan forum sites that included pages for all three shows were used; these forums were Fan Forum (FanForum.com) and Previously TV (forums.previous.tv). Recruitment messages were posted on each of these forums, including a link to the study. Also, respondents could locate the survey through social media (Twitter and Facebook). The recruitment message and survey link were posted with hashtags associated with each show to target the shows’ viewers (#Scandal, #TheGoodWife, and #MadamSecretary).

In this way, individuals who were actively engaged in these shows—as illustrated through their online attention to them—were recruited to complete this study in order to ensure that respondents had some familiarity with and prior viewing of at least one of the shows being considered. This sampling technique was used to increase external validity—or the generalizability from the sample to the population (i.e., all viewers of these shows)—by including only individuals who actively watch the shows and self-identify as fans of the shows on different online fan forums. To incentivize participation in the survey, the researchers informed respondents that a \$0.50 donation would be made to the Save

the Children Child Literacy Program—a charitable organization unrelated to the purpose of this study—for each person who completed the survey. The survey remained open for five weeks in January and February of 2017, during which time all respondents were recruited and completed the study.

A total of 218 respondents completed the survey. Of those, 71% were women (29% were men), and respondents' ages ranged from 18 to 73 ($M = 30.85$, $SD = 11.93$). Additionally, respondents were asked to identify their race/ethnicity (selecting as many options as applied), and 81.2% reported being White/Caucasian, 7.8% as Hispanic, 6% as African American/Black, 5.5% as Asian/Pacific Islander, 1.4% as Native American, and six respondents indicated some other category. The majority of respondents had earned at least a four-year college degree (65%).

Procedure

The survey began by asking respondents to identify how often they watched each of the three shows. They then completed questions related to the following variables in this order: transportation, parasocial relationships, political interest, political self-efficacy, and political participation. The survey concluded with a series of demographic questions.

Variables

Respondents were asked to identify how often they watched *Madam Secretary*, *The Good Wife*, and *Scandal*. They were asked three separate questions about each show (a total of nine questions): how often they watched each show (1 *Never* to 7 *Always*); how many seasons of each show they had watched (1 *None* to 7 *All*); and how many episodes of each show they had watched (1 *None* to 7 *All*). The three items asked about each particular show were used to create a scaled measure for that particular show (i.e., three items per show): *Madam Secretary* ($M = 3.10$, $SD = 2.57$, $\alpha = .99$); *The Good Wife* ($M = 3.40$, $SD = 2.57$, $\alpha = .99$); and *Scandal* ($M = 4.51$, $SD = 2.56$, $\alpha = .99$). As for the number of respondent that watched each show, the most viewed program was *Scandal* ($N = 160$), followed by *The Good Wife* ($N = 120$) and then *Madam Secretary* ($N = 107$).¹

To assess levels of transportation when watching these shows, respondents were asked to "think about the times when you watch *The Good Wife*, *Scandal*, or *Madam Secretary*. When you're watching an episode of the show, think about how it makes you feel." They then responded to the items used in Appel et al.'s (2015) transportation scale. This scale consists of five randomly presented items, including "I was mentally involved in the show while watching it" and "The show affected me emotionally," each assessed using 7-point scales (1 *Strongly disagree* to 7 *Strongly agree*) ($M = 5.72$, $SD = 0.98$, $\alpha = .80$).

Rubin and Perse's (1987) measure of parasocial interaction was used to assess respondents' connections with the lead characters in these shows. Respondents were told to "think about the main characters from *The Good Wife* (Alicia Florrick), *Scandal*

(Olivia Pope), or *Madam Secretary* (Elizabeth McCord). When you're watching your favorite one of these characters, think about how it makes you feel." This 10-item measure includes items such as "I feel sorry for my favorite character when she makes a mistake" and "My favorite character makes me feel comfortable, as if I am with a friend." Using 7-point scales (1 *Strongly disagree* to 7 *Strongly agree*) to assess responses, all questions were presented in random order ($M = 5.31$, $SD = 0.96$, $\alpha = .86$).

Respondents then answered two questions about their interest in politics. These randomly presented questions were developed by Knobloch-Westerwick and Meng (2011), and used 7-point scales (1 *Strongly Disagree* to 7 *Strongly Agree*). Respondents indicated whether they closely followed news and information about 1) government and public affairs as well as 2) elections ($M = 5.90$, $SD = 1.22$, $r = .78$).

Next, respondents answered questions about their feelings of self-efficacy related specifically to politics. The 4-item measure created by Kushin and Yamamoto (2010) was used. Each randomly presented question was addressed using a 7-point scale (1 *Strongly Disagree* to 7 *Strongly Agree*). This measure included items such as "I can make a difference if I participate in the election process" and "I have a real say in what the government does." These items created a reliable scale of political self-efficacy ($M = 4.90$, $SD = 1.40$, $\alpha = .91$).

Finally, Campbell and Kwak's (2010) measure of political participation was used to gauge respondents' politics-related activities. Using 7-point scales (1 *None in the last month* to 7 *Every day*) and presented in random order, these three items asked respondents to identify how often they take part in these activities: attending a political meeting, rally, or speech; circulating a petition for a candidate or issue; and contacting a public official or political party ($M = 1.43$, $SD = 0.77$, $\alpha = .68$).

Table 1 displays the zero-order correlation matrix for the scaled measures. Of note, political participation was not correlated with viewing of any of these three political TV shows. This suggests that politically motivated individuals are not simply turning to

Table 1
Zero-Order Correlation Matrix

	1	2	3	4	5	6	7
1 Watching <i>Madam Secretary</i>	—						
2 Watching <i>The Good Wife</i>	.07	—					
3 Watching <i>Scandal</i>	-.27***	-.21**	—				
4 Transportation	.19**	.20**	.16*	—			
5 Parasocial relationships	.27***	.10	.10	.72***	—		
6 Political interest	.16*	.02	.13	.24***	.26***	—	
7 Political self-efficacy	.11	.03	.12	.30***	.27***	.25***	—
8 Political participation	.02	-.01	-.01	.12	.13	.28***	.06

Note. Values are Pearson's r correlation coefficients. $N = 218$

* $p < .05$; ** $p < .01$; *** $p < .001$

political dramas, but that the relationship between viewing of these shows and political participation is more complex, which strengthens the theoretical argument put forth in this study's model (see Figure 1).

Results

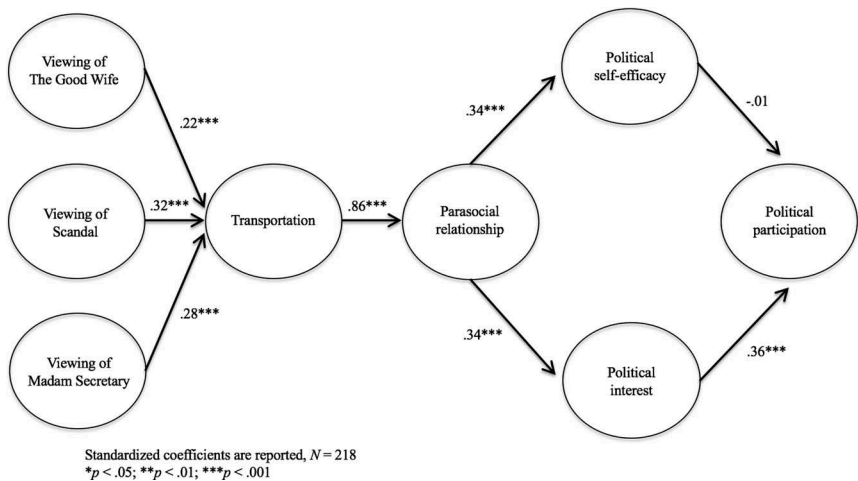
The hypothesized model was tested using structural equation modeling in AMOS 24. The model achieved an acceptable degree of fit: $\chi^2(487, N = 218) = 726.02, p < .001$; $\chi^2/df = 1.49$; RMSEA = .05 (90% confidence interval: .04 to .06); CFI = .96. Figure 2 shows the standardized regression coefficients and levels of significance for the hypothesized model.²

The first hypothesis predicted that viewing of these three political dramas with lead female characters—*Madam Secretary*, *The Good Wife*, and *Scandal*—would lead to increased levels of transportation. This hypothesis was supported for each show. Transportation was then predicted to lead to increased feelings related to parasocial relationships. This prediction, as proposed in H₂, was supported.

The next step of the model predicted that parasocial relationships would lead to increases in both real-world political interest as well as political self-efficacy, as described in H₃ and H₄, respectively. Both H₃ and H₄ were supported.

Finally, political interest and political self-efficacy were predicated to lead to increased levels of political participation. Political interest positively and significantly

Figure 2
Final Model



predicted an increase in political participation, supporting H₆. However, increased feelings of self-efficacy did not translate into political participation, which does not lend support to H₅.

Taken together, these results indicate that the influence of political dramas, particularly those featuring women in lead roles, can lead to increases in political engagement through the transportation experienced and the parasocial relationships formed while watching these shows.

Discussion

Television has historically not represented women well, primarily showing female characters in stereotypical roles (Signorielli & Bacue, 1999; Sink & Mastro, 2017). Three recent political dramas run in opposition to these stereotypical portrayals by featuring lead female characters. *Madam Secretary*, *The Good Wife*, and *Scandal* all focus on political issues and center around women in positions of political power and leadership. Given their uniqueness in the current media landscape, this study examined how viewers of these shows are impacted by these representations. In particular, it proposed a model that links viewing of these shows to experiences of transportation and parasocial relationships. The model then posited a connection between these experiences and eventual increases in political engagement, including interest, self-efficacy, and participation.

As reported in prior research (Green & Brock, 2000; Mutz & Nir, 2010; Slater et al., 2006), higher levels of viewing these political television shows with lead female characters resulted in increased feelings of transportation. In this way, respondents who frequently watched each show reported mentally entering the world of the narrative, or feeling transported into the show and its story. This initial finding supports the aforementioned prior research and also suggests that these types of political dramas—those featuring lead female characters—function similarly to other shows with other types of characters, in that they can lead to transportation.

The model then hypothesized a relationship between the experience of transportation and feelings of connectedness with the lead characters in the shows. In particular, this study focused on parasocial relationships with the female leads of the shows. Respondents were asked to report their feelings toward the lead woman in each show, isolating the effects of these parasocial relationships to the lead female characters. The significant and positive relationship revealed in this model illustrates the importance and effectiveness of including strong women in the leading roles of political television shows. This finding suggests that the characters that run counter to the stereotypic portrayals in entertainment media are able to evoke strong relationships with the audience. It also demonstrates that lead female characters are needed to expand the ability of audience members to find relatable and inspirational characters with whom they can identify and form parasocial relationships.

The connections between the viewing of these shows and feelings of transportation and experiences of parasocial relationships are only the introductory steps of the model tested here. The subsequent steps predicted that, through these feelings and experiences, viewers would express increased levels of political engagement. Prior research has shown that television dramas can bring about attitudinal and behavior change in the political sphere (e.g., Besley, 2006; Shah, 1998; Tenenboim-Weinblatt, 2009). However, scholars had yet to examine if political dramas featuring lead female characters could bring about the same outcome. This study illustrated that, in fact, viewing of these shows—as translated through transportation and parasocial relationships—resulted in increases in both political interest and political self-efficacy. These findings show that the incorporation of lead female characters, particularly in political dramas, does not merely satisfy a hedonic motivation (Bartsch & Schneider, 2014). Instead, fans of *Madam Secretary*, *The Good Wife*, and *Scandal* reported that their viewing of these shows was related to increases in political engagement.

The final step of the model considered if these attitudinal qualities of political engagement—interest and self-efficacy—translated into behavioral responses in the form of direct political participation. Political interest—but not self-efficacy—was significantly and positively related to political participation. That is, greater interest in politics led to an increase in political participation. These findings are similar to prior research (Shah, 1998). Overall, this study's results show that these three political dramas with lead female characters can lead to downstream positive effects, including increases in political participation.

This model, in sum, illustrates the significant potential of featuring women in lead roles in political television, particularly dramas. Viewers reported strong connections with the characters and feelings of transportation through the narrative storytelling presented in these shows. Given that these feelings were related to increases in political engagement, these shows fill a greater purpose than simple entertainment—they are linked to political efficacy, interest, and participation. These findings should encourage the creation and viewing of political TV shows that feature women in lead roles.

Limitations and Future Research

Though a variety of recruitment procedures were used, this study's respondents did not report a wide variety of demographic characteristics. Future research should attempt to expand the reach of these results by including a more representative sample. Obtaining this sample may prove difficult, given that the incentive offered here did not yield an especially large sample; however, researchers may try providing greater incentives (e.g., monetary awards, gift cards, streaming service subscriptions, etc.) to increase participation and produce a more generalizable sample of viewers of these shows. Along these lines, the number of men who responded to this survey was low, perhaps because women may be more likely to watch shows

with lead female characters. Though this study's model fit and coefficients were not significantly changed when only women were included in the analysis (potentially indicating a similar influence across genders), future research should consider if the demographics of this survey's sample are representative of the viewing audiences of these types of TV shows, helping to determine its generalizability.

Political participation in this study was measured using traditional items, but it is possible that this variable should also consider more recent forms of participation. For example, consideration of online forms of political participation would add greater depth to this study. Future research should consider other forms of political engagement that may more closely fit the responses of individuals who view these types of shows.

Since this research used a survey of individuals who watch these shows, these results should be tested using an experimental context. In this way, the effects could be further isolated and also make more direct claims of causality. These results also should be expanded to consider the impact of featuring women in lead roles of other types of television shows (e.g., comedy, news, satire, etc.). Furthermore, collecting open-ended responses from shows' viewers may lend additional descriptive information to these results, illustrating reasons for viewing these shows and their perceived effects.

More research, broadly speaking, examining the viewing and impact of political entertainment should be undertaken. Considering the results of this study's model connecting viewing of fictional political television and political engagement, future research should continue to explore the implications of these shows, particularly those that feature traditionally underrepresented groups in prominent roles.

Conclusions

In examining political television dramas with lead female characters, this study proposed a model that links viewing of these shows with political engagement. A survey of individuals who regularly viewed *Madam Secretary*, *The Good Wife*, and *Scandal* revealed that they reported increased feelings of transportation and connections with the main characters—strong women in positions of political power and leadership. These parasocial relationships then led to increases in political interest and self-efficacy. Political interest, in particular, predicted real-world political participation. The results of this model illustrate that these political dramas—featuring strong lead female characters—have prosocial implications. First, they represent the potential impact of these shows' initial steps toward including non-stereotypical representations of women on television. Second, these findings demonstrate that viewing these shows—through transportation and parasocial relationships—eventually produces increases in political engagement. These results should encourage the creation of more politically driven entertainment content featuring women in lead roles given its ability to not only entertain, but also encourage increases in political interest, self-efficacy, and participation among viewers.

Notes

1. Using regression models with gender, race/ethnicity, and age predicating viewing of each of these shows, a few significant results emerged. Older respondents were more likely to watch *The Good Wife* ($\beta = .24, p < .001$) and *Madam Secretary* ($\beta = .19, p = .004$) and less likely to watch *Scandal* ($\beta = -.26, p < .001$). Women were more likely to watch *Scandal* ($\beta = .26, p < .001$), while men reported more viewing of *Madam Secretary* ($\beta = -.27, p < .001$). Gender did not significantly influence viewing of *The Good Wife* ($\beta = -.12, p = .09$). Finally, race/ethnicity (dichotomized to White/non-White) did not significantly predict viewing of *The Good Wife* ($\beta = .07, p = .28$), *Madam Secretary* ($\beta = .04, p = .58$), or *Scandal* ($\beta = -.10, p = .12$).
2. Since gender was a significant predictor of viewing two of the shows, the SEM was rerun to include only women. The model fit was largely unchanged: $\chi^2(487, N = 154) = 646.22, p < .001$; $\chi^2/df = 1.33$; RMSEA = .05 (90% confidence interval: .04 to .06); CFI = .97. Additionally, the significance levels of each of the regression weights reported in Figure 2 did not change substantially when only women were included in the model.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Expanding Television's Cultural Forum in the Digital Era: Prime Time Television, Twitter, and Black Lives Matter

Laurena Bernabo

Twitter updates and expands television's cultural forum model by letting viewers speak to current events such as the Black Live Matter (BLM) movement. This article analyzes 1,985 tweets in response to three television episodes (Law & Order: SVU, The Good Wife, and Scandal) that dramatized BLM, and identifies five common themes in how viewers address these representations: thematic appropriateness, timing, producers' qualifications, institutional critiques, and the purpose of entertainment television. This study concludes that Twitter facilitates a meta-commentary, which expands traditional discussions of entertainment programming, and that these programs transcend "mere" entertainment to become critiques of larger social movements.

"I feel like I was hit by a train. I hate living in a world where stuff like that happens." This tweet could have been about any number of black boys and men killed in the U.S. in the last few years. This tweet, however, was not about Trayvon Martin, Eric Garner, or Michael Brown, at least not directly. This tweet was a response to an episode of *Scandal* (ABC, 2012–2018)—in which a young black man is senselessly killed by a police officer—an all-too-familiar narrative now in both news stories and entertainment programming. The representations of this theme in entertainment programming, and the way that Twitter serves as a public sphere for discussion through live tweeting practices, demonstrate how social media and entertainment programming are expanding the cultural forum of the Black Lives Matter (BLM) movement.

In addition to being utilized for activism (Brock, 2012; LeFebvre & Armstrong, 2016) and political engagement (Larsson & Moe, 2011; Vaccari, Chadwick, & O'Loughlin, 2015), Twitter has come to function as a mode of viewer engagement with entertainment programming (Cameron & Geidner, 2014; McPherson et al., 2012). The symbiotic relationship between Twitter and television provides a way for viewers to engage with and comment on programs in real time, and producers with a way to access

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viewers (Twitter, 2011). However, dual-screening studies tend to focus on live tweeting of news, sports, and political events, and rarely on scripted programming. Studies of how people tweet about scripted series have considered how such social television activity affects viewing experiences (McPherson et al., 2012) or how viewers participate in discourses about shared cultural histories (Williams & Gonlin, 2017). This study focuses instead on how viewers tweet about scripted programming based on real events, specifically BLM. In particular, this study argues that Twitter and live-tweeting practices collectively manifest in an expanded televisual cultural forum where viewers discuss the role of media in the sociopolitical sphere.

Viewer discussion about televisual representations is nothing new, but it historically lacked the collective force and public eye that Twitter affords. Framing tweeting as an expansion of television's cultural forum informs our broader understanding of television's role in both commenting on and sparking debate about contemporary issues like racial activism. *Law & Order: SVU* (SVU), *The Good Wife* (TGW), and *Scandal* are significant in the way that they create a broader discussion of BLM on Twitter. This study expands previous rearticulations of the cultural forum model of television by accounting for social media engagement, specifically examining the use of Twitter in responding to BLM-inspired episodes.

This study conducts a thematic analysis of tweets responding to BLM's dramatization in the context of a modernized cultural forum model, where Twitter broadens the forum's scope by bringing together disparate viewers through hashtags like #blacklivesmatter and the names of television programs. Twitter has been acknowledged as a powerful tool for communicating discontent and challenging existing power structures (MacKinnon, 2012). Recent scholarship on social television, or the practice of using social media while watching television, has demonstrated the ways viewers use Twitter to discuss and engage television content over geographically disparate places (Guo & Chan-Olmsted, 2015; Lin, Chen, & Sung, 2018). As the present study illustrates, live tweeting expands television's function by giving viewers a platform for collectively articulating, engaging, and critiquing both those meanings and their very presence on television. Five broad themes emerge from and are discussed in tweets about these episodes: 1) whether BLM themes should be dramatized in entertainment programming, 2) the appropriate timing of such representations, 3) who is qualified to dramatize BLM, 4) media critiques of social institutions, and 5) the purpose of entertainment television programs.

Theoretical Framework

Cultural Forum Model

The cultural forum model (Newcomb & Hirsch, 1983) brought focus to the collective, cultural view of the social construction and negotiation of reality. This model addresses a central question in television studies by explaining how commercialized, mass-mediated content contains a variety of ideological valences.

Newcomb and Hirsch argue that cultures examine themselves through the meta-language of their arts, and that television “does not present firm ideological conclusions—despite its *formal* conclusions—so much as it *comments* on ideological problems” (p. 49). In other words, rather than providing a powerful voice that perpetuates a singular dominant ideology via a monolithic point of view, television presents a multiplicity of meanings that inspire audiences to reflect on and consider their own positions on political and social issues.

Although some aspects of the cultural forum model make it less applicable in the current post-network era of fragmented viewing, it remains useful if we emphasize its lesser-known tenets: television presents particular values and attitudes to a sizable and heterogeneous audience, provides a space for ideological negotiation, and is viewed through ritualistic communication practices. Television remains the most mass-oriented medium, and this model remains useful for critically analyzing television texts because television continues to contribute to the construction, circulation, and negotiation of values and ideas (Lotz, 2004). Some scholars suggest that digital developments make it more difficult for television to create a cultural forum because viewers have more options and more control over what they watch, compared to the network era (Hendershot, 2013; Lotz, 2004).

However, the diminishing nature of a mass television audience experiencing and debating a specific television show does not herald the end of television as a cultural forum, because it is maintained and even expanded by dual-screen practices. A single episode of a single program is limited in its ability to comment on the significance of television. But a collection of texts with a common theme, and the use of social media to comment on them, allows us to recognize the vibrancy—with which television as a social process can explore societal fear and uncertainties—in this case, by implicitly or explicitly linking to specific incidents of violence. Moreover, many viewers’ ritualistic television practices now include dual-screening practices like live tweeting (Harrington, Highfield, & Bruns, 2013). As such, BlackLivesMatter and its cultural consequences are negotiated and shared not just in news media, but in entertainment programming and Twitter, and live tweeting across multiple programs expands television’s cultural forum in significant ways.

In the field of media and cultural studies, the cultural forum model is foundational due to its capacity to demonstrate that television, as a technology and a cultural practice, opens spaces where regular people can engage with major social debates of the day. Television programs are rich and complex, providing a multiplicity of meanings from which viewers draw their own ideologically engaged conclusions. The text-based cultural forum model traditionally focused on how a program’s textual elements encourage discussion or debate. And yet, an updated cultural forum model requires that we consider non-narrative texts, including social media microtexts, and so the present study expands the model to examine audience responses in the form of tweets.

Today, the integration of television viewing with Twitter use creates the specific cultural forum where viewers can discuss the role of media in society and politics. Live

tweeting amplifies viewers' ideological engagement with television's multiple meanings by compounding it with their engagement with each other and giving them a public platform that transcends geographical space and linear time. Twitter users expand television's cultural forum by commenting on, critiquing, and critically engaging the ways television processes the material world into narrativized forms. Against this backdrop, the present study expands the cultural forum model to examine audience responses in the form of tweets. This research hopes to demonstrate how Twitter affords viewers the opportunity to create a cultural forum via a metacommentary on television as a medium, via advancing the first open research question.

Twitter

Since it emerged in 2008, Twitter has been a popular forum for communicating about social upheaval and engaging in activism, and for talking about media events as they occur. These two uses are reflected in the two rather disconnected strands of research on Twitter in media studies, with one focusing on social movements like BlackLivesMatter (Bonilla & Rosa, 2015; LeFebvre & Armstrong, 2016) and the other on fandom and identity politics (Maragh, 2016; McPherson et al., 2012). BLM-related hashtags have not been considered as a platform for influencing mainstream television, nor vice versa. This is true, despite the fact that political movements have long aimed to influence prime time representations because prime time television is a large platform for gaining popular agreement and influencing public opinion. With BLM's ubiquity on Twitter and its relevance to numerous programs, the current study intends to identify how representations have been influenced and received by viewers to advance a second open research question.

Numerous studies demonstrate that the political arena is an inviting area for research into Twitter's impact, yet we know little about the relationship between social media and entertainment programming. To this end, media scholars are starting to examine the integration of social media into television through dual screening to understand how viewers use social media to (re)interpret content. For example, Schirra, Sun, and Bentley (2014) identify motivations for and benefits of live tweeting, and Maragh (2016) investigates the exploitation of Black women's tweets for content feedback. Still, these studies tend to focus on viewers rather than how they engage in meta-analyses of representations. Some scholars have considered fandom, but not necessarily the way that social media provides space to discuss the politics of prime time entertainment media. Moreover, most dual-screen studies focus on political debates, sports, and competition-based reality shows. By contrast, the current study examines tweets surrounding three BLM-related episodes of scripted programs and suggests live tweeting's utility both as an industrial tool and as a cultural forum for viewers to analyze and engage in a meta-level discussion of thematic dramatizations.

When *Time* magazine (Poniewozik, 2010) dubbed Twitter the “Twittercooler,” it did two important things; it tapped into the long-held understanding of television as an electronic hearth (Tichi, 1992), and tied this to the conventional practice of gathering around the watercooler to discuss the previous night’s programming. For many, television viewing now goes hand in hand with online interaction (Giuffre, 2012). Viewers increasingly create social viewing experiences by posting and reading comments and discussing programming in real time (Cameron & Geidner, 2014; Larsson & Moe, 2011). Hashtags such as #blacklivesmatter and #ferguson offer a succinct way to signal a common concern, and trending records make visible the amount of conversation surrounding those concerns; Twitter functions as an online town hall in which individual voices and collective opinions can become amplified (Van Dijck, 2013) with hashtags serving as a metadiscoursal convention (Brock, 2012).

Twitter thus becomes a virtual watercooler where the active audience paradigm of contemporary cultural studies is made visible, and live tweeting is imbricated in similar viewer motivations like camaraderie, social inclusion, and the affirmation of personal opinions (Schirra et al., 2014; Wohn & Na, 2011). Viewer engagement takes on new possibilities in the public sphere of social media. Scholars have previously considered the ways that active audiences appropriate and make use of texts, as in fan poaching (Jenkins, 1992), or are used by producers who incorporate viewer feedback in a form of free audience research (Andrejevic, 2008).

Viewers in this study are considered to differ in their specific political intent in engaging with the dramatization of BlackLivesMatter. Tweepers create their own forum by engaging the text and providing their own perspective; while television producers may make use of this perspective, producers’ actions do not exhaust the Twitter forum’s political engagement. As a naturalized extension of television, Twitter complements it by expanding viewers’ opportunities to actively contribute to a wider media sphere (Harrington et al., 2013). This study attempts to provide a framework through which these two strands of Twitter scholarship and media studies can be integrated.

Methods

To demonstrate the way Twitter extends the cultural forum, potential focal texts were first selected. While many television series have addressed racial prejudice, particularly since Martin’s death, this study identifies and engages episodes whose narratives echo the deaths of specific black individuals. Choosing these episodes allows the identification of tweets in which the connections between historical events, news media, and entertainment programming are most clearly drawn. These episodes hail from the different dramatic subgenres of police procedural, legal, and political, demonstrating how the expanded cultural forum of live-tweeting television works across a range of genres. As Lotz (2004) contends, we also benefit from analyzing trends, representations, and discourses across networks, by selecting one text from each of the three major U.S. networks. These episodes

are: *Law & Order: Special Victims Unit's* "American Tragedy" (NBC, 10/2/13); *The Good Wife's* "The Debate" (CBS, 1/11/15); and *Scandal's* "The Lawn Chair" (ABC, 3/5/15), all of which aired in the season following the specific racial incident and death that occurred and was relevant to the current study.

Tweets for each episode were collected by using the Twitter API to search for specific hashtags, which indicated that a tweet was about the episode in question. Tweets including #SVU and #TheGoodWife were collected for the first two series. *Scandal* required more specificity, as there were an overwhelming number of tweets featuring #Scandal that were in fact about a Chinese pop singing group by that same name. Tweets were thus collected that contained both #Scandal and either #BlackLivesMatter or #Ferguson, the two hashtags most commonly associated with the issue of systemic racism (Bonilla & Rosa, 2015).

The number of tweets varied considerably across episodes. There were 1,588 tweets for *SVU*, which aired early in the days of live tweeting. Of these, the 669 that specifically addressed issues related to BlackLivesMatter and its dramatization on television were included for analysis. The low numbers of tweets featuring #TheGoodWife (236) can be explained by the episode's airing opposite the Golden Globes. Predictably, the greatest number of tweets in this study were found with *Scandal*, a series that has embraced live tweeting though on-screen hashtags and an active executive producer and vivacious cast. Of the 1,080 *Scandal* tweets analyzed for this study, 830 included #BlackLivesMatter and 263 contained #Ferguson.

Twitter (2011) defines live tweeting as "a continuous engagement that leads to a sequence of focused tweets," and so this study follows the conversations that occur around the hashtags described above. Although dual screen tweeting and television viewing is arguably "incompatible with time shifting" (Harrington et al., 2013, p. 207), this study examines tweets that occurred both during and immediately following each broadcast to account for east and west coast broadcasts as well as immediate SVOD and DVR viewing. By using the broader parameters of each episode's evening in its entirety, the present analysis accounts for conversations that occur both at the time of a show's broadcast and in the hours that follow, thus capturing the proverbial Twittercooler phenomenon. The tweets collected were uploaded into an excel file and stripped of identifying information (usernames, photos, etc.) to focus on the content of the tweets rather than the identities of those tweeting. Tweets were analyzed chronologically, while noting that SVOD technologies and the dual-coast airings ultimately disrupt the chronology of those tweets with respect to a given episode.

The researcher conducted a qualitative content analysis of the tweets by using grounded theory's constant comparative method (Glaser & Strauss, 1967) to categorize tweets into themes surrounding BlackLivesMatter. The flexibility of this approach allows for the (re)generation of theory based on vivid descriptions of data—in this case, through comparisons across tweets for specific thematic patterns (e.g., Maragh, 2016). Five themes, or topics on which tweets focused, emerged across *SVU*, *The Good Wife*, and *Scandal*, demonstrating a trend across time and series. These five themes include: 1)

Table 1
Percentage of Theme across Series and in Total

Theme	<i>Law & Order: SVU</i>	<i>The Good Wife</i>	<i>Scandal</i>	Overall
Whether or not to dramatize	34.7%	34.3%	40.4%	37.7%
Timing	10.5%	20.3%	7.6%	10.1%
Authorship	24.2%	34.3%	33.0%	30.2%
Media critique	38.9%	36.0%	24.2%	30.5%
Purpose of entertainment	23.6%	11.0%	45.3%	33.9%

whether or not to dramatize; 2) timing; 3) authorship; 4) media critique; and 5) purpose of entertainment.

The diversity of perspectives across each theme was documented to demonstrate whether Twitter's state as a cultural forum expands television's traditional role of commenting on ideological problems without providing firm conclusions. This approach was adopted to address the query forwarded by the first open research question, which explores whether Twitter creates the opportunity to formulate a cultural forum as a metacommentary based on television content. All tweets are directly quoted, including typos and non-traditional writing styles, with minimal use of brackets for clarification. Table 1 provides the percentages of each theme across each show and the overall occurrence of the themes taken as a whole.¹

After identifying these themes, tweets were coded for the positions that viewers took to elucidate the explanations inquired by the second open research question. Specifically, the second open question investigates how viewer may respond to the racial incidents and death under study as represented in the television programs examined. For example, of the tweets engaging the theme of timing, viewers characterized that they watched in relation to the racial incident featured in the episode as a) too soon, b) not soon enough, c) appropriately timely, or d) uncannily timely, considering current events. Due to the large number of frequency categories associated with viewer responses analyzed under each of the five themes, these frequencies are discussed below and not presented in a table.

Findings and Discussion

To understand these tweets' contexts, we must be familiar with the narratives of the episodes analyzed. While the tweets are the primary focus of this study, the following overview of the episodes to which they respond provides a necessary context.

In particular, *SVU*'s "American Tragedy" blended race-related news stories in a narrative that Newsone (2013) called "Paula Deen Shoots Trayvon Martin". Jolene, a white female celebrity chef, shoots Mehdad Carter, a young Black man

in a hoodie. White women have been brutally raped in this neighborhood by an armed man fitting Mehcad's description, and Jolene claims that Mehcad attempted to attack her after following her down the street. The narrative reveals that Mehcad was a choirboy armed with nothing but cherry bubblegum. Jolene testifies that she feared for her life and shot in self-defense, but medical evidence confirms that Mehcad was at least five feet away from her. The narrative centers on the rapists' prior victims, two of whom identify Mehcad in a photo lineup before the actual rapist is caught in the act, moments before Mehcad dies in a hospital. Thus, both the survivors and the police who engage in "stop and frisk" practices are depicted as unable or unwilling to differentiate among Black men.

Whereas *SVU*'s narrative mirrored the death of Trayvon Martin, *TGW* more broadly reflected on excessive force against Black men, though the inciting incident echoes that of Eric Garner. "The Debate" opens with handheld video footage of a Black man confronted by two white police officers in a mall; he accuses them of racial profiling, and one officer quickly resorts to the deadly use of his Taser. The announcement of the grand jury verdict coincides with and interrupts a debate between two educated, white, upper-middle class individuals who are running for State's Attorney, one of whom is the show's protagonist Alicia Florrick. During this delay, the two candidates retreat to the hotel kitchen, and their conversation leads to an impromptu debate in front of a growing audience of racially diverse hotel staff about race relations, institutional problems, and potential solutions. The "not guilty" verdict mounts concerns that protesters may turn to rioting, and the governor joins with prominent Black clergy and the victim's wife as she tells the crowd, "This is not the time to break things. This is the time to fix them."

Like *SVU*, *Scandal*'s "The Lawn Chair" mirrors a specific death: Michael Brown. Here, the white officer Newton shoots and kills a Black teen named Brandon Parker after he hears a vague description regarding a local robbery and confronts Brandon. Newton insists that Brandon was pulling a knife and that he feared for his life; his white partner, the first to respond, backs up his story. Brandon's father is adamant that his son is innocent and arrives at the scene with a shotgun, refusing to leave until his son's killer is punished. Political "fixer" Olivia Pope works to maintain peace between a growing crowd and increasingly hostile officers, and she discovers that the knife found under Brandon's body was planted. Pope and the Attorney General confront Newton in his precinct in front of his colleagues. Newton then lets loose with a tirade about how Black youth are trained to hate and disrespect the police, concluding, "Brandon Parker is dead because he didn't have respect, because those people out there who are chanting and crying over his body, they didn't teach him the right values. They didn't teach him respect. He didn't respect me, he didn't respect my badge. Questioning my authority was not his right. His blood is not on my hands!"

Each of these episodes engaged race relations through narratives that specifically focused on the killing of unarmed Black boys and men. Thus, this study demonstrates how Twitter functioned to afford a meta-commentary on the role of fictional

television in the public sphere and considers the role of these programs within a larger cultural forum. With these findings, the current study builds on historical precedents to demonstrate how Twitter magnifies conversations about the representations of racialized bodies and lives, and how these discussions are facilitated through engagement with entertainment television.

While studies of other live-tweeted programs have identified trends in content (McPherson et al., 2012), motivations (Schirra et al., 2014), or a combination of the two (Wohn & Na, 2011), the themes below are marked primarily by their engagement with television as a significant cultural force. By applying the central tenets of the cultural forum model to live tweeting, we can make sense of how viewers in the post-network era engage fragmented television productions in the context of an encompassing cultural medium. As this study demonstrates through the thesis of the two first open research questions, Twitter expands the interactive possibilities of television as a cultural forum and affords viewers a platform for negotiating ideological meanings and political issues.

Theme 1: To Dramatize or Not to Dramatize?

Real events inspired these episodes, and thousands of tweets did little more than point to the clear connections between the programs and BLM. The debate instead questioned whether television should dramatize such events; 70.7% of tweets engaging this topic championed these episodes as painful yet necessary, but 14.5% expressed disapproval. *SVU*'s episode was described as "in extremely poor taste" and "disrespectful to the Martin family," and *Scandal* was accused of using "black boys bodies [as] props for TV shows," exploiting BlackLivesMatter, and pandering to Black viewers. The greatest outrage came from those who believed executives were financially benefitting from the deaths of Black men. Additionally, these programs faced accusations that they dramatized BLM simply because they "ran out of an original storyline." These sentiments demonstrate the ways entertainment programming and Twitter facilitated a broader cultural forum about BLM by highlighting an ongoing national crisis outside the traditional venue of news media.

Each episode was an instance, albeit to varying degrees, of art imitating life, and they were generally disheartening. Of particular concern to the 15.3% of tweets here that expressed trepidation was the extent to which some series took liberties with actual facts. Participants were alarmed by and criticized this blending of "fact" and "fiction." Tweeters identified ways the episodes disrespected the dead or obscured the racism of those involved. For example, *SVU* upset viewers by letting Martin's surrogate, comatose and fighting for his life, be mistakenly identified as a serial rapist; they lamented the representation of the "black man hoodie-wearing negro [as] the aggressor" and George Zimmerman's stand-in as "the fragile white woman." When a knife was found under the body of the slain teen in *Scandal*, fans expressed a willingness toward outrage if the knife was not revealed to have been planted.

One viewer tweeted, “don’t mix #Ferguson with falsehood of #scandal cuz some ppl will miss REAL pt.” Viewers were concerned that blending fact and fiction would denigrate the memories of Martin and Brown and feared the consequences of impugning their innocence. This theme indicates viewers’ understanding that dramatic, scripted representations based on news stories can affect viewers’ comprehension of those events covered in the news, and that viewers therefore expect entertainment programming to behave responsibly, regardless of disclaimers eschewing any connection to actual events.

Theme 2: If So, When?

Among those who believed that BlackLivesMatter must be represented in entertainment television, viewers commonly discussed whether enough time had passed between the real-life event and its fictional representation. Viewers were divided, with 38.5% praising episodes for being “timely” and 35% suggesting that these representations were “too much too soon” and insensitive to those communities directly affected by BLM. They described *SVU* as “shameful and very insensitive so close to the real events,” and a *Scandal* viewer addressed Shonda Rhimes to say, “We are hurting for what happen. shame.” The remaining 26.5% suggested that these episodes should have come sooner and expressed irritation that BLM had taken so long to be addressed on prime time dramas. Here, many lamented that they had become upset “all over again,” and one poetically claimed that “Just when you thought your Trayvon wound was healing, #SVU came through with a switchblade and a salt shaker.” *Scandal*, which aired months after Ferguson, was both criticized for waiting so long and praised for bringing attention back to an issue that had waned in national attention.

Though tweets regarding timing were generally celebratory, one Twitter user suggested that the real scandal is the fact that “it takes a trending show to get [people’s] attention back to the #BlackLivesMatter movement.” A *Scandal* viewer perhaps best captured this controversy by tweeting, “This might seem like ‘Too Soon’, but 10 minutes or 10 months or 10 years—it will still ring true for all.” These tweets illustrate both the inconclusive nature of Twitter’s cultural forum and the longevity of social issues like BLM that tend to permeate entertainment programming.

Theme 3: Who Is Qualified to Dramatize?

In addition to debating authenticity and response time, viewers drew upon these fictional representations to address a longstanding concern in African American television criticism (Havens, 2013) by considering television authorship and asking who should tell these stories. Tweets emphasized creator identities and their handling of the topic. Most viewers (63.8%), presumably dedicated fans, celebrated their

chosen program. *SVU* was characterized as “one of the few shows that can incorporate current events without making it corny.” *TGW* received similar praise from viewers, who claimed that the series “handles sensitive subjects better than most.”

Many who praised *Scandal* specifically lauded creator Shonda Rhimes because “She gets it and has the power to show it,” specifying, “Shonda knows exactly how to get this conversation started.” Rhimes was described as brave for using her platform to air controversial content and 63.8% of tweets in this category were celebratory, but it’s worth noting that the per-show averages varied dramatically; only 38.3% of *SVU*’s tweets and 48.1% of *TGW*’s tweets were positive, while 79% of *Scandal*’s tweets were positive. This suggests a strong connection between the identity of a show’s creator—the white Dick Wolf for *SVU* and Robert and Michelle King for *TGW*, and African American Shonda Rhimes for *Scandal*—and approval of one’s ability to handle a complex and sensitive cultural issue.

While these episodes were generally well received, 20.2% criticized the shows’ approaches to dramatizing BLM. It was suggested that *SVU* will “capitalize off everything,” and *TGW* received considerable critique for having an underdeveloped understanding of race-related issues. Though some viewers took a more forgiving perspective on writers who “really tried their best with this Ferguson episode,” critics generally agreed that an overwhelmingly white cast was not equipped to do this topic justice.

Another frequent criticism in these tweets, particularly with *TGW* and *Scandal*, had to do with the fact that these series rarely address race explicitly. While some viewers used social media to titter over the rare sight of so many Black people on *TGW*, others argued that “this particular show delivering that sort of message feels a bit hypocritical and self-congratulatory. Particularly when ... the show is not likely to ever bring any of this up ever again.” “Like I love you #TheGoodWife,” said another, “but you’re still a show written about white people BY white people. Hanging a lantern only does so much.” Given these comments, it is perhaps surprising that *Scandal*, created by and starring powerful Black women, received similar critiques. “After 4 years, Olivia realizes she’s black?” one viewer asked. “Okay. Now #BlackLivesMatter The real #scandal.” Another commenter pointedly suggested that the *Scandal* episode was Rhimes’s pathetic “food run to the hood for fried chicken and greens,” or a transparent attempt to appease Black viewers.

The condemnation of perceived cultural appropriation is further complicated by another key point of engagement for *TGW* (12.3%) and *Scandal* (10.1%), both of which aired after BLM took the United States by storm, regarding the use of “Black Lives Matter.” Rhimes has famously made substantial strides in representing diversity, but has been conspicuously reticent about #BlackLivesMatter, instead adopting the more tonally vapid #AllLivesMatter. The point of #BlackLivesMatter is that it brings attention to the systematic dehumanization of Black lives, whereas #AllLivesMatter (and its *Scandal* equivalent, “we all matter,”) ignores racial inequalities and strips the sentiment of its political roots (Yancy & Butler, 2015). Remarks about the absence of “Black lives matter” from the series ran the gamut from angry

("This is the same Shonda who said Twitter activism is stupid. Of course she's not gonna use "#BlackLivesMatter") to wistful ("I wish u would've said #BlackLivesMatter or dedicated the ep") to resigned ("*sigh* Can black people just have a moment! Yes, #WeAllMatter but dang. #Scandal #BlackLivesMatter"). Ironically, the white-cast *TGW* gave #BlackLivesMatter the largest movement-specific megaphone. Not only was this series praised for the scenes of protestors shouting that "Black lives matter," but it was elevated above the Golden Globes, which aired the same night but which did not reference the BlackLivesMatter movement.

Theme 4: Media Critique

Each episode in this study offers a critique of powerful figures and institutions, primarily law enforcement but also courts, politicians, and news media. Tweets in turn addressed and negotiated these critiques. Most tweets (83%) criticized these predominantly white institutions, while a mere 12.9% found qualities and actions to praise; few (4.1%) expressed support for the white individuals who ended Black lives, agreeing that Jolene was right to be afraid or that Black-on-Black crime is a bigger problem than police violence, and some *Scandal* tweets included #AllLivesMatter. By and large, tweets engaging institutional critiques blurred the line between the fictional realm of dramas and the historical context of BLM, using these episodes to comment not only on how various institutions were represented on prime time, but also how they behave during this politically contentious moment in history. They extended the conversation surrounding these three episodes to generalize about real and fictional police, politicians, and media.

While relatively few of these tweets engaged news media, reporters were wholly ridiculed in these tweets. One *TGW* viewer derided news outlets by discussing a scene in which a reporter sought a 45-second response to the prompt, "Talk to us about race relations in America," laughing "Lol becuz it's so like the media." Tweets skewered reporters for characterizing the victim as a "suburban father of two turned into suspected gang member," with one viewer fuming: "I. Can't. Even." These tweets signal a disgruntled perception of news outlets as unable, or unwilling, to create spaces for real debate or to frame victims as such, instead vilifying them through false or irrelevant information and perpetuating racist news frames (Oliver, 1994). *Scandal* viewers offered similar criticisms; one tweeter suggested that "Stereotypes and distortions by the media have transformed the Black body into being synonymous for 'threat,'" while others pointed to a noticeable lack of press coverage of BlackLivesMatter protests and the larger movement in the preceding months.

Most tweets engaging in institutional critique focused on the use of force by the police. For example, they excoriated *SVU*'s protagonists for circulating a dangerously vague sketch of the suspect on a wanted poster. While officers in

TGW were secondary within the narrative and generally escaped viewer comment, *Scandal*'s officer Jeff Newton became a stand-in for American police, just as Jolene became a stand-in for racist civilians who don't recognize their own bigotry. When Newton confessed in a racist rant, tweeters demonized him and other police for thinking and feeling in this way. But they also characterized his rant as useful because it exposed "the sick and diabolical psyche of most police officers," noting that it "sounded pretty similar to that ferguson DOJ findings report." That said, while many attributed Newton's positions to all police officers, others argued that "Not all officers are evil and vindictive." As one concluded, this episode "raised valid arguments from both parties along racial divides and was really insightful."

In addition to criticizing institutions, 12.9% of these tweets prescribed improvements and celebrated instances of progressive approaches to BLM. In this way, the cultural forum of Twitter engaged the role of fictional television in discussions about the racial politics of police use-of-force. Many recommended that lawyers and politicians adopt the practices of fictional counterparts who were more useful to the BLM movement; most notably, 31.8% of *TGW*'s tweets in this theme praised the institutions in question, primarily by cheering on the fictional governor for "already doing more than [Missouri governor] Jay Nixon." Similarly, Newton served as evidence that officers must "learn the biases they unconsciously bring to communities they police," and that "this is why we need institutional change, because these police forces are too set in their ways." In addition to advice, some viewers reasserted the point of the BLM campaign. "To be clear, our dream is not having cops arrested for killing us," one wrote. "Its [sic] to have them stop killing us." Though inspired by actual events, the fictional nature of these programs created an open space for viewers to discuss and work out their thoughts on real-life debates about institutional racism and police brutality.

Theme 5: The Purpose of Entertainment Programming

Much of the conversation revolving around these episodes boiled down to questions about the role or responsibility of scripted entertainment programming. This debate played out through different answers to unspoken questions, including, should entertainment programming give voice to one perspective or to many? Should it lecture, or should it facilitate public debate? Should it emphasize the realism of societal struggles, or should it allow for some degree of escapism?

Of the tweets engaging this theme, only 7.3% questioned whether programs should offer a variety of perspectives or be more one-sided. Shows were both praised for giving voice to a variety of positions and criticized by those who didn't want to hear any kind of message that conflicted with or downplayed the tenets of BlackLivesMatter. When tweets included support for white shooters, particularly the one character who faced consequences for his actions, BLM's supporters retorted "YOU don't even like a FICTITIOUS justice to serve black folks fairly!"

Even as shows were commended for facilitating discussions about racial inequalities in the United States, a vocal minority (3.6%) characterized them as “propaganda-ridden,” “bullshit and biased,” “Ripped from liberal imaginations,” and marked by “[*West Wing* creator Aaron] Sorkin levels of ham-fistedness.” As scathing as their comments were, these tweeters were nearly drowned out by the 47.7% of tweets that celebrated the power of television. In addition to the prosecutors, police, and politicians who were advised to learn something, several viewers hoped that these programs would open audiences’ eyes to the realities of contemporary racial tensions. They hoped that “people will be more tolerant after watching [*SVU*],” and that *Scandal* would “open some ignorant eyes” because “People who don’t understand [Black people’s] struggle/pain might have an insight” after watching. “It’s not just entertainment,” said one of the hundreds of people who thanked Rhimes for using her platform in this way. “Even if 1 person now understands #BlackLivesMatter, #Scandal did more than entertain. It educated,” said another. This widely held sentiment led to several related claims; redefining “must-see TV,” many viewers asserted that “everyone” should, or must, watch these programs.

In addition to educating Americans or exposing them to the topic of police violence and BlackLivesMatter specifically, 41.5% of tweets engaged in this theme addressed television’s capacity for escapism. One of the clearest points of contention here regarded the outcomes for the white shooters. Jolene’s acquittal was met with considerable dismay and numerous suggestions that she be shot on the courthouse steps. *SVU* and *TGW* viewers alike hoped to witness a happier ending than the ones in real life; commenters lamented that it “Would have been nice to get some justice” on *SVU* and that “You can tell it’s fictional because the police made it to trial” in *TGW*. Together, these tweets demonstrate the belief that television should offer viewers what reality cannot or will not. With *Scandal*, these yearnings for justice were fulfilled. As one individual put it, “The beginning of the episode was art imitating life. The second half is hoping life will imitate art one day.” Viewers communicated hope here, however dim, for race relations in America—namely, that justice would occur and that men like the ones who killed Brown, Garner, and Martin would be held accountable for their actions.

Conclusion

From the tweets in this study, we see a Twitter forum inspired by the cultural forum of scripted prime time dramas. The Twitter forum is a site of numerous conversations, though a dominant ideology does emerge along with oppositional and resistant ideologies through cultural coding and encoding (see Hall, 1980). Notably, the discourses on Twitter tend to echo the dominant reading of the text itself. The combination of television’s and Twitter’s second-screen forums allows for the creation of a forum about the television medium, with implications for the textual bias of the cultural forum model. For example, *TGW* tweeters used news

media to discuss coverage of racial unrest, thus offering a metacommentary on media; such perspective is absent from the original cultural forum model, which did not account for the ways television considers its own role in culture through programming. Through dual-screening, Twitter's cultural forum is not separate from television's cultural forum, but in fact extends it. While Twitter's cultural forum did not create the opportunity for television to be a reflexive medium, the two media forums work well together, with Twitter allowing viewers to critique television as a cultural forum that mediates BLM-related issues.

Scandal's real-life inspiration, Judy Smith, tweeted that "The conversations in ['The Lawn Chair'] aren't easy but they must happen" because "To move forward, we must talk to each other." This essay has demonstrated the ways dramatic programming works to cultivate these conversations, which circulate broadly on Twitter. Connected viewing through Twitter now expands these conversations in significant ways by providing not just commentary on programming but meta-commentary on the role of television as a cultural forum and a cultural force. Participants collectively critique and comment on entertainment programming. When programs engage political issues like BlackLivesMatter, the Twitter forum becomes a place where connected viewers contextualize dramatizations and debate the role of television as a mediating force in American politics and culture. The forum described here resembles the Twitter forum that emerged around the real-life events in Ferguson, which was dominated by institutional critiques, emotional sentiment, and calls to action (LeFebvre & Armstrong, 2016). But in addressing dramatizations, this hybrid forum emphasizes the role or responsibility of entertainment programming in cultural crises beyond news coverage.

This study demonstrates the continued relevance of the cultural forum model in an era of social media and post-network broadcasting. Future research into television in the current digital age should further investigate the processes by which cultural issues like #BlackLivesMatter, #MeToo, or #NeverAgain come to be developed into scripted programming. For example, how has the process changed considering social media such as Facebook and Twitter, specifically regarding the ways that users serve as focus groups for writers, producers, and other industry insiders? Relatedly, what kinds of backlash do programs and producers experience when they refuse or fail to engage in the dialogue afforded by social media, or when they use it as a unidirectional broadcasting medium rather than engaging in "reciprocal listening"? (Crawford, 2009, p. 530).

The aftermath of Martin's, Garner's, and Brown's deaths offered little cause for optimism. Although the Justice Department announced that it would conduct independent federal investigations into Garner's death, this is considerably tempered by their ruling in the Ferguson case. The Department of Justice broadly condemned local police practices and systemic issues for rights infringements and inherent racial bias among both police and court officials even as it found Brown's shooter innocent. Art imitated life when *SVU's* Jolene was acquitted, perhaps heralding the numerous deaths of others who are guilty of little more than making

white individuals uncomfortable, nervous, or scared by the color of their skin. For all its power, as we can see, television is limited in its social influence on racial incidents such as the ones studied here. The airing of *SVU*'s "American Tragedy" did not prevent the deaths of Garner, Brown, or the countless other Black boys and men slain by police before *TGW* aired "The Debate."

Notes

1. Of the 1,985 tweets analyzed for this study, many (37.2%) engaged two or more themes, while very few (2.6%) did not engage any at all.

Disclosure statement

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Tweet, Retweet, Favorite: The Impact of Twitter Use on Enjoyment and Sports Viewing

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Tweet, Retweet, Favorite: The Impact of Twitter Use on Enjoyment and Sports Viewing

Lauren Reichart Smith, Ann Pegoraro, and Sally Ann Cruikshank

Sports fans are increasingly turning to Twitter to experience events and receive commentary. Using the theoretical grounding of disposition theory, this study surveyed sports fans to measure how Twitter potentially influenced their enjoyment of viewing live and mediated sporting events. Respondents primarily used Twitter to augment their consumption of sports, and heavy Twitter users reported higher enjoyment levels when using the social networking site while watching sports. Findings also suggest how the manner in which respondents used Twitter impacted their sports viewing enjoyment.

Sport is an international phenomenon, reaching into all arenas of life from political, economic, cultural, entertainment, and tourism, to the social fabric including social problems and issues (Jarvie, 2013). Sport is a multi-billion-dollar industry (Heitner, 2015) and is considered by many to be an integral part of popular entertainment and national culture. Recognizing how vital sport is to society, the United Nations declared it to be a human right, noting “sport has been increasingly recognized and used as a low-cost and high-impact tool in humanitarian, development and peace-building efforts...” (UNESCO, n.d.)

Twitter, perhaps due to its immediate nature, has been one of the dominant social networking sites (SNSs) in the sports world, with coaches, athletes, fans, and sports media relations professionals all maintaining accounts and interacting with each other (Browning & Sanderson, 2012; Sanderson & Kassing, 2011). The 2012 London Olympics were dubbed the “first social media Olympics,” with both athletes and fans using social media to post about the Games (Mann, 2012). The 2014 World

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Cup inspired three billion posts on Facebook throughout the tournament and 31.2 million tweets during the final match (Gross, 2014).

This focus on sports and social media has been complemented by research addressing media multitasking, specifically second screen viewing, where individuals view television as the primary task while engaging in another task on a secondary screen (Jeong & Hwang, 2016; Pilotta, Schultz, Drenik, & Rist, 2004). Early research has focused on the negative impact of second screen viewing on cognitive outcomes (e.g., Wang & Tchernev, 2012). But limited studies have explored how second screen use can influence other outcome variables, such as enjoyment, and few studies have explored second screen viewing in relation to sports (Cunningham & Eastin, 2015; Voorveld & Viswanathan, 2015).

The current research addresses a key gap in the literature, which is the understanding of the impact of one medium (Twitter) on the enjoyment of using another medium (television) as well as the impact of using Twitter while watching live sports. Specifically, this study utilizes disposition theory as a lens to determine the impact of using Twitter on sports viewing enjoyment (Raney, 2003). By creating an online community for sport fans, Twitter raises new questions with respect to enjoyment while watching sport. To determine the impact of Twitter use on enjoyment, a survey of sport fans who use Twitter was employed to determine (a) the ways in which they engage on Twitter while watching live and televised sport, and (b) how the variables of gender, age, and level of Twitter use impact enjoyment levels.

Literature Review

The advent of mobile devices such as smartphones and the proliferation of SNSs have changed how audiences watch television, leading to the notion of “social TV,” which Ji and Raney (2015) explained as “a) the growing set of technologies that enable synchronous social interaction between television viewers at a distance and b) the use of those technologies during viewing” (p. 223). Examinations of the live tweeting of television programs have identified connectedness and community as the primary motivations for the behavior (e.g., Doughty, Rowland, & Lawson, 2012; Highfield, Harrington, & Bruns, 2013). Through the act of this second screen viewing, viewers engage in “sofalisising,” what Doughty et al. (2012) noted as coupling a second screen while viewing a television program.

Twitter and Sports

Scholarship pertaining to Twitter and sport has mainly focused on how individuals (e.g., fans, coaches, players, journalists, sport media professionals) utilize SNSs. Examinations include the motivations of sport audiences (Frederick, Lim,

Clavio, & Walsh, 2012), the use of Twitter by athletes (Kassing & Sanderson, 2010), sports journalists (Schultz & Shaffer, 2010), broadcasters (Hull, 2016), fans (Brown & Billings, 2013), and media consumption through Twitter (Lee, Han, Kim, & Kim, 2014). Kassing and Sanderson (2010) concluded that “Twitter works well as a complementary medium for athletes and fans—one that can enhance the experience of sport” (p. 124). Billings (2014) argued researching the role of Twitter in sport fandom was particularly valuable, because the “impact of Twitter is now mainstream” (p. 111).

The analysis of Twitter usage and potential patterns of use is an area with limited research. Examining Twitter around the 2014 Super Bowl, Lee et al. (2014) analyzed tweets sent and were able to identify the pattern of tweets in relation to particular events in the broadcast. The pattern identified illustrated that as the audience became more excited during the game, they became more engaged on Twitter, increasing their exchange of information and opinions and thereby the volume of tweets created.

To date, limited studies have employed surveys to understand sport fans' use of SNSs. Wang (2013) found that sport fans viewed SNSs more favorably if they knew how to use SNSs and expected to access information, such as scores. Watanabe, Yan, and Soebbing (2016) discovered that MLB fans showed more interest in MLB teams' Twitter accounts in the early months of the year through the middle of the MLB season. Frederick et al. (2012) found athletes who were more engaged on Twitter yielded more followers who felt as though they knew the athlete personally. Twitter also provided a way for fans to interact with athletes in a way they found more “realistic” (Frederick et al., 2012, p. 495). Twitter users reported following an athlete due to an affinity, including seeing the athlete as a role model or an expert (Clavio & Kian, 2010). Highfield et al. (2013) concluded Twitter served as a technology for long-term fandom as well as a facilitator for connecting fans and audiences. Although these studies elucidate how and why different individuals use Twitter, they did not investigate how the use of Twitter influences a person's enjoyment of a sporting event, either live or televised.

Sport Consumption and Second Screens

While time spent using television and SNSs to consume sport content may be positively related, using the two media concurrently presents a different set of questions and possible outcomes. Multitasking across media has led to an increase in the actual time spent with media in recent years, as daily use grew among all age groups—including a 4% overall annual growth rate—for the coveted 18–34-year-old demographic (Nielsen, 2014). Worldwide, people are spending more than eight hours per day consuming media, and much of that time is spent with two or more streams of content (Faw, 2015). These new media multitasking habits have led researchers to explore what streams of media are

most often used simultaneously (Voorveld & van der Goot, 2013). Multitasking with online content (as a secondary task) while watching television (as a primary task), dubbed “second screen viewing,” is one of the most common media multitasking combinations (Pilotta et al., 2004), with almost 60% of individuals reporting using a second screen while watching television (Nielsen, 2015). “Social TV” has been defined as technologies that enable social interaction during television viewing (Giglietto & Selva, 2014; Ji & Raney, 2015), through television viewing on one screen and communication with others on a second screen (Auverset & Billings, 2016). Social media facilitate sports viewing, and as noted by Gantz (2013), “supplement primary relationships, enhance one’s sense of social worth, reinforce one’s commitment to sports, and contribute to feeling part of a meaningful community” (p.10).

According to Nielsen (2017), activity on SNSs related to televised events peaked on Sundays as audiences took to SNSs to talk about NFL games, specials, and Sunday series, with a third (33%) of weekly Twitter activity occurring on Sundays. In a 2016 study, 51% of respondents said that they browse the internet on a second screen while watching sport in general, and at least a third participated in other second-screen activities, like using SNSs, checking the news, and texting with friends or family (e-Marketer, 2016). Further, 50% of tweets about television are about sport content (Nielsen, 2014) and therefore, sport is far from immune to second screen activity. Voorveld and Viswanathan (2015) explored multitasking activities while watching television and found across news, entertainment, sport, and commercials, multitasking was observed more frequently while viewing sport than any other genre.

Researchers have demonstrated the negative cognitive outcomes associated with media multitasking (Jeong & Hwang, 2012; Wang & Tchernev, 2012), but relatively little research has focused on the positive affect or enjoyment outcomes that may come from second screen viewing. Cohen and Lancaster (2014) found that co-viewing television with others, via SNSs, was associated with a greater feeling of being a part of a group. For individuals with a higher need to belong, co-viewing televised content with mediated others also allowed for access to a larger pool of social information, which led to a feeling of a greater sense of community (Cohen & Lancaster, 2014).

When considering sport fans’ second screen use, Gantz, Fingerhut, and Nadorff (2012) found sport fans routinely use SNSs to talk about games as they unfold. Cunningham and Eastin (2015) found a majority of sport fans reported that they interact with others via SNSs, while watching sport. Thus it is possible that fans can satisfy their social motives, while viewing through second screen use of SNSs, or by viewing with others (Gantz, 2013; Gantz & Lewis, 2014). Ninety-five percent of all televised sports is viewed live, as compared to just 66% of televised drama viewing (Nielsen, 2014), perhaps indicating that real-time second screen social interaction around sporting events is more likely than other types of televised content.

Enjoyment

"Social TV," through second screen use, has become a common form of media consumption. Previous examinations have utilized the Uses and Gratifications (U&G) theoretical approach, looking at how viewers use a second screen to fulfil one of the five motivations posited by the theory (Blumler & Katz, 1974). Previous U&G research has examined the motivations for second screen use in broadcast programming (e.g., Auverset & Billings, 2016; Ji & Raney, 2015; Schirra, Sun, Bentley, 2014) and sport programming (Billings, Qiao, Conlin, & Nie, 2017; Hwang & Lim, 2015). Billings et al. (2017) noted the theoretical underpinnings of U&G can be used to determine how sport fans select particular media platforms. Of the five motivations in U&G, Blumler and Katz (1974) noted one such gratification obtained is media enjoyment. While these previous examinations utilized U&G to study the motivation of using a second screen, this study investigates the effect of using a second screen during sport viewing. This examination contends that enjoyment would be a byproduct of using a second screen, not a specifically sought need satisfaction.

Scholars have provided multiple definitions of enjoyment, leading to a lack of clarity on the specific definition (Tamborini, Bowman, Eden, Grizzard, & Organ, 2010). Nabi and Krcmar (2004) explained that enjoyment stems from attitude, cognition, and behavior, and the process of enjoyment is likely to fluctuate during message exposure. Disposition theory proposes that enjoyment stems from a reinforcement of a base morality (Zillmann, 2000). Disposition-based theories of enjoyment are used to predict viewers' enjoyment of certain types of media content (Raney, 2003), using two main antecedents: the examination of pleasure and the examination of the effects of watching dramatic or tragic content. Disposition-based theories of enjoyment explain why we like what we like and can be used to predict why people will enjoy certain types of media content (Raney, 2003).

Through disposition theory, Raney (2010) noted that enjoyment "is a product of a viewer's emotional affiliations with characters and the outcomes associated with those characters" (p. 166). Enjoyment in sport is also driven by suspense, defined by Zillmann (1996) as "acute, fearful apprehension about deplorable events that threaten liked protagonists" (p. 208). The words protagonist, antagonist, and characters may lead to a belief that dispositions are formed around one or two people in a television program; however, Gantz (2013) explained that individuals care about sport because a player, team, league, or sport matters to them. It is within this context that we must understand how protagonists and antagonists in sport can encompass anything from one player, to entire teams, to coaches and entire leagues. Raney (2004) stated "the way viewers form dispositions toward media characters may vary across time, between individual viewers, and among specific content, genres, and styles" (p. 362).

One of the main reasons people watch sporting events is because they enjoy it, making disposition theories particularly relevant to sport viewing research. In the

context of sport viewing, enjoyment can be defined as a person's emotional response to players on the field or a team as a whole. Zillmann (1996) defined an affective disposition as a viewer's temporary attitude towards a salient media character. Sport fans consume media related to their favored teams with the expectation of enjoyment, being entertained, and reveling in potential victory (Gantz, 1981). Suspense is also provided through the drama of sport, and suspense has been considered a potential driver of enjoyment. Momentum swings, potential comeback opportunities, the unknown outcome until the final seconds of the game, dispositions towards players or teams, and the potential for the rival to encounter failure all combine to generate suspense (Peterson & Raney, 2008).

Much disposition research on sport has centered around the examination of watching favored teams, noting enjoyment levels peak both when consuming media related to favored teams together with a victorious outcome. It is the contention within this study that viewing habits have changed, and a broader approach to sport viewing combined with second screen may be more appropriate to examine questions focused on the emotional outcome of enjoyment. Individuals no longer simply observe sport; indeed, as Raney and Bryant (2002) noted, the viewing-related activity engaged by the audience is what produces the event.

Yu and Wang (2015) examined emotion in real-time tweets during five 2014 FIFA World Cup matches. Their analysis revealed that sport fans used Twitter for emotional purposes, and the emotions when the "home" team was showcased were consistent with the predictions of disposition theory. However, they also analyzed games featuring neutral teams, and found generally positive emotions in fan tweets, suggesting that affective emotional reactions are present even when the sporting event features teams that the viewer may have no vested fandom in.

In regard to the social aspect of sporting events, studies have shown that winning and losing can have social effects on communities of people (Schweitzer, Zillmann, Weaver, & Luttrell, 1992; Wann, 2006). Winning a highly contested match against a powerful nation or rival, especially when it is an unexpected victory, can unite people, at least for a short period. Conversely, when the team suffers a defeat, people come together and bond by consoling each other, offering the encouragement of "We'll get them next time."

Although much of watching sport occurs in a social situation, social facilitation of enjoyment (e.g., audience size, fan reactions) is an element that research has been unable to support (e.g., Bryant & Miron, 2002; Zillmann & Bryant, 2002). Through Twitter, a user could find a community online to share in victory or defeat, or the medium can provide interest for an event in which a person feels no loyalty to the teams involved. Past research on disposition theory and enjoyment has shown that a multitude of different factors (e.g., suspense, moral judgment) can have an influence on an individual fan's perception of a sporting event. More recent research examining second screen use and sport has found emotional reactions when an individual holds no vested interest in either team. This has led to an understanding of enjoyment that allows for the exploration of the boundaries of disposition theory. First, we must understand *if* enjoyment is being

impacted by the variable of a second screen before we can begin to ask the questions of why. Therefore, this study focuses on how second screens may affect enjoyment to address the first element of understanding. Of specific interest to this examination is the potential effect of second screen viewing (i.e., multitasking) on enjoyment. Further, we are also interested in how the effect of second screens may vary between live and mediated sport viewing, as well as the effect of how the second screen is being utilized. Therefore, the following hypotheses and research questions are proposed:

H₁: Twitter use will be positively related to enjoyment for mediated sport viewing.

H₂: Twitter use will be positively related to enjoyment for live sport viewing.

RQ₁: How will type of Twitter engagement affect enjoyment?

RQ₂: What impact does age, type of engagement, and level of Twitter use have on enjoyment?

RQ₃: What impact does gender, type of engagement, and level of Twitter use have on enjoyment?

Method

Sample

A request to participate in an academic research study was distributed electronically via Amazon's Mechanical Turk internet crowdsourcing service to a United States-based population of unknown size. Amazon's Mechanical Turk is an online participant solicitation and data collection tool. Through the platform, anonymous workers are solicited to perform a wide variety of short "human intelligence tasks" for a predetermined amount of payment (Mason & Suri, 2012). Previous examinations in behavioral science research have found *MTurk* to provide data of quality equal to conventionally obtained data (Horton, Rand, & Zeckhauser, 2011), and few differences between traditional and *MTurk* sample characteristics (Paolacci, Chandler, & Iperotis, 2010).

Potential participants were assured of their anonymity and offered \$.10 for taking part in the research. Within two weeks of the posting, a convenience sample of 742 individual surveys was returned. After unusable responses ($n = 124$) were discarded, a sample of 618 respondents was retained and the results were analyzed using SPSS software to compute frequencies, descriptive statistics, and ANOVAs.

The sample skewed more male (56%) than female (38%), with 6% of participants either reporting identifying as other or not responding. Respondents' ages ranged from

18 to 65, and for the ANOVA analysis age was converted into ranges in order to obtain distinct groupings: <20 (5%), 20–29 (45%), 30–39 (32%), 40–49 (12%), 50–59 (4%), and 60+ (2%). All respondents resided in the United States, covering 44 different states. Seventy percent of participants identified as white, 7% black, 9% Asian, 6% Hispanic, less than 1% Pacific Islander, and 7% reported as other. Over one third (36%) of respondents indicated that they completed some college, with 33% having a bachelor's degree, 12% holding a master's degree, 1% having a Ph.D., and 2% reporting having a professional degree.

Survey Instrument

Survey methodology was used to investigate the enjoyment levels of self-identified sport fans and Twitter users. The survey sent to all participants was designed to examine how their enjoyment levels were affected by their utilization of Twitter, while watching televised sport or attending a live sporting event. In order to gain a representative sample of sports viewers, all types of sport were included. Respondents were asked a set of initial questions to gauge their interest in activities, ranging from sport in general to watching sport on television, posting on Twitter, and the amount of posting in which they engaged. For all of these questions, respondents were presented with a 4-point Likert-type scale ranging from *Very disinterested* to *Very interested*. In addition, respondents answered a series of "Yes/No" questions regarding televised sport viewing and live sport viewing habits, as well as their Twitter habits for both types of sporting events.

Measures

The independent measures in this investigation were level of Twitter use, type of engagement, age, and gender. For the MANOVA analysis, the variables of level of Twitter use and type of engagement were recoded. For level of Twitter use, respondents were classified into one of three categories: heavy users (post multiple times per day or daily), light users (post a couple times a week or weekly), and lurkers (never post content, just read). For type of engagement, respondents were classified into one of four categories: post own content (post their own thoughts, reply directly to other users), post others' content (retweet or like the Tweets of other users), non-engagement (do not post or retweet content), and combination (users who both post their own content as well as post the content of others).

The dependent measure used in this study was enjoyment. Enjoyment of watching sport while using Twitter was measured using a 9-item measure consisting of questions adapted from prior research (Raney & Depalma, 2006), and utilized a 10-point, Likert-type scale. Each item had different wording, depending on the question. For example, "How enjoyable is it to follow along with sporting events on Twitter?" had Likert-type

items ranging from *Not enjoyable at all* to *Extremely enjoyable*; the question "How much do you like reading the commentary on Twitter during the sporting events?" had response categories ranging from *Not at all* to *Extremely*.

Two different enjoyment variables were utilized in the study: The first, "Mediated Enjoyment", was created to capture responses related to "watching sporting events on television" (Cronbach's $\alpha = .95$). This variable was assessed with the following measurement items: "How much do you enjoy using Twitter while watching sports on television?"; "In general, how much more exciting does watching sporting events on television become when following along on Twitter?"; "How good does following sporting events on Twitter while watching sporting events on television make you feel?"; and "How much do you like watching sport on television while simultaneously using Twitter?" A second enjoyment variable, "Live Enjoyment", was created to capture responses related to watching sporting events in person (Cronbach's $\alpha = .96$). This variable was gauged by the following measurement items, "How much do you enjoy using Twitter while watching sport in person?"; "In general, how much more exciting does watching sporting events in person become when following along on Twitter?"; "How good does following sporting events on Twitter while watching sporting events in person make you feel?"; and "How much do you like watching sport in person while simultaneously using Twitter?"

Results

Both H_1 and H_2 made predictions that an individual with a greater level of Twitter use would report greater enjoyment during mediated and live sport viewing, respectively. To address these hypotheses, a one-way MANOVA was run to determine the effect of Twitter use level on enjoyment for two measures of enjoyment: mediated enjoyment and live enjoyment. Data are expressed as mean $\pm$ standard deviation. Twitter use was divided into three categories: heavy, light, and lurkers. The scale mean for televised enjoyment was 19.70, and the scale mean for live enjoyment was 16.17.

Heavy, light, and lurker Twitter users scored higher in mediated enjoyment ($24.44 \pm .58$, $19.19 \pm .48$, and $13.72 \pm .64$, respectively) than live enjoyment ($20.69 \pm .60$, $15.71 \pm .49$, and $11.46 \pm .65$, respectively). There was a statistically significant difference in enjoyment based on level of Twitter use, $F(4,1224) = 48.54$, $p < .001$, Wilk's $\Lambda = .75$, $\eta^2 = .14$. Follow up one-way ANOVAs found significant effects on mediated enjoyment $F(2,613) = 93.46$, $p < .001$, $\eta^2 = .23$ and live enjoyment $F(2,613) = 55.09$, $p < .001$, $\eta^2 = .15$. Bonferroni post-hoc tests show the mean scores were significantly different ($p < .001$) between all three groups for both mediated and live enjoyment. Thus, both hypotheses were supported.

RQ₁ asked if the type of engagement on Twitter had an effect on enjoyment. A one-way ANOVA was run with type of engagement as the independent variable and TV

enjoyment as the dependent variable. There was a statistically significant difference found between type of engagement and mediated enjoyment $F(3,613) = 79.92$, $p < .001$. A one-way ANOVA was run with type of engagement as the IV and live enjoyment as the DV. There was a statistically significant difference found between type of engagement and live enjoyment $F(3,614) = 84.25$, $p < .001$. Table 1 shows the significant mean differences of Bonferroni post-hoc testing.

RQ₂ and RQ₃ queried the impact the factors of age, gender, type of engagement, and level of Twitter use on enjoyment. For posting behavior, a factorial MANOVA was run to determine the effect of age, gender, and type of engagement on enjoyment. No main or interaction effects were found. For level of Twitter use, a factorial MANOVA was run to determine the effect of the age, gender, and level of Twitter use on enjoyment. Significant main effects were found for posting amount $F(4,1134) = 15.38$, $p < .001$, $\eta^2 = .05$ and age $F(10,1132) = 2.11$, $p = .021$, $\eta^2 = .02$, but no significant interaction effects were found. For type of engagement, a factorial MANOVA was run to determine the effect of age, gender, and type of engagement on enjoyment. Significant main effects were found for age, $F(10,1132) = 2.11$, $p = .021$, $\eta^2 = .02$, and type of engagement during live sporting events $F(6,996) = 6.66$, $p < .001$, $\eta^2 = .03$, and a significant interaction effect was found for age and type of engagement during live sporting events $F(24,996) = 1.84$, $p = .008$, $\eta^2 = .04$. Figure 1 shows the interaction effects.

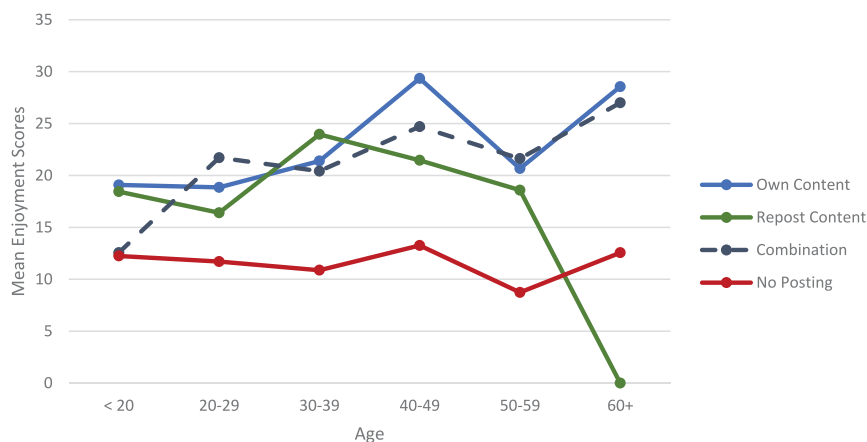
Looking at Figure 1, we can see the main effects of age and type of engagement. Users who lurk on Twitter have lower levels of enjoyment across all age ranges. The varying types of engagement result in higher mean enjoyment scores, which rise as the age range rises. The significant differences that drive the interactions are found in all age groups but the 20–29 age category. Significant differences emerge in the < 20 age group between users who lurk or post a combination of content. From age 30 and above, there are significant differences between users who lurk versus users who engage in some level on Twitter.

Table 1
Bonferroni Post-Hoc Results for Significant Mean Differences of Posting Behavior and Enjoyment

	Own Content	Other's Content	No Content	Combination
Mediated Enjoyment	21.56 ± 8.12 ^{cd}	22.10 ± 6.26 ^{cd}	13.49 ± 7.68 ^{abd}	24.91 ± 7.91 ^{abc}
Live Enjoyment	19.99 ± 8.06 ^{cd}	17.30 ± 7.70 ^{cd}	11.51 ± 6.44 ^{abd}	16.16 ± 8.85 ^{abc}

Note. $n = 618$, $a = \text{Own Content}$, $b = \text{Other's Content}$, $c = \text{No Content}$, $d = \text{Combination}$, $p < .005$

Figure 1
Interaction Effects, Live Sporting Events



Discussion

This study examined the social networking site Twitter, and how it impacted enjoyment while watching televised and live sporting events. Study results provide a first step in expanding the boundaries of disposition theory by investigating the potential effects of second screen viewing. The main tenets of disposition theory focus on affectations and outcomes. However, Smith (2012) noted that enjoyment is not decided upon an event's conclusion, and sport is not consumed in a vacuum, falling in line with Nabi and Krcmar's (2004) contention that enjoyment levels fluctuate during viewing. Sport viewing has moved beyond solely watching a favored or rival team. Additionally, viewers do not wait until the end of an event to determine their level of enjoyment; enjoyment is an emotion that can fluctuate, just as an emotion can change over the course of consuming other forms of entertainment. For a sport viewer, the thrill may not always be in the victory, but may sometimes be in the chase. As sport viewers begin to adopt second screen habits into their viewing, they engage in an interactive experience with a mass audience. Pertaining to disposition theory, enjoyment levels can rise and fall, not only with the drama of the sporting event, but also with the interaction occurring on the second screen. What was found across both conditions was as the level of Twitter use decreases, so too does enjoyment.

For viewers of mediated sport, this finding makes sense. If an emotional need (e.g., enjoyment) was not being met, it would be expected that the viewer would not engage in that behavior at a high level. Also for mediated viewers, Twitter may serve as a social connection to other individuals, particularly individuals within their in-group. That virtual

social interaction may be fulfilling the emotional need of enjoyment that they may not otherwise derive when watching the game alone, or with a very small group of people. However, the fact that the same behavior pattern emerged for live viewing is curious; despite being in a live atmosphere — likely surrounded by both friends/family and members of your own team in-group — individuals are still using and finding enjoyment from the second screen experience. This study does not purport to draw conclusions about why that may be, but it is an area that should be considered further, especially considering how many stadiums are using in-game promotions to drive people to SNSs (i.e., “Tweet a photo of you at the game and use a specific hashtag!”). In addition, research by Billings et al. (2017) found when the majority of one’s social group choose a social platform, it often becomes a preferred social medium of choice. Therefore, researchers should consider the role of a social group’s platform of choice in relation to the impact of SNSs on live and televised viewing of sport.

The research questions focused on the specific engagement behaviors performed on Twitter. Previous research has established that SNSs can be seen to especially promote relatedness (Hamari & Koivisto, 2015)—a major determinant of intrinsically motivated use such as enjoyment—which Lin and Lu (2011) identified as a primary factor in continued use of SNSs. This study provides further understanding of enjoyment with results, which indicates that the type of engagement also seems to have an impact on enjoyment, with individuals who engage by posting their own content reporting higher mean enjoyment scores. Despite sport often being consumed in a social setting, research has not yet supported the social facilitation of enjoyment; however, with this finding, the idea of social facilitation needs to be reconsidered in the SNS setting. In this context, the authors argue that posting, as well as retweeting/favoriting tweets can all fall under the notion of social behaviors. When a person posts, they put their own ideas out for consumption; when they reply, they are acknowledging another’s thoughts and responding to them. Retweeting and/or favoriting also demonstrate a social function; those two behaviors convey an acknowledgment, and potential endorsement, of another’s content.

Looking specifically at posting behaviors, two interesting findings emerged. The higher levels of enjoyment came from individuals who only posted their own thoughts or replied to other individuals, and also from individuals who did both of those actions, as well as retweet/favorite other tweets. Enjoyment means dropped lower for individuals who only retweeted/favorited other’s content, or did not post at all. These findings suggest that it is not only the use of the medium that may impact enjoyment, but also the type of engagement with the media.

In Pew’s 2016 social media update, findings report that younger Americans (18–29) are more likely to be on Twitter (Greenwood, Perrin, & Duggan, 2016). Level of Twitter use seems to be the primary determinant of enjoyment in this specific context, with posting behavior and age being the other mitigating factors. However, the enjoyment levels rise as age level rises, suggesting that even though the younger generation is more likely to be on Twitter, this age group is not deriving the most enjoyment out of using Twitter while watching sporting events.

As with any study, this project had limitations. First, it is likely that social interactions taking place on various SNSs are different. This study only considered one platform—Twitter—to the exclusion of others. As new SNSs continue to emerge and provide fans with spaces to seek out interaction and information, continuing this line of research with different platforms (e.g., Snapchat) will be beneficial in better understanding enjoyment and the phenomenon of second screen interaction while viewing live and televised events. In addition, SNSs are constantly evolving. As such, this study provides a picture of the use of Twitter in the form it existed during the study time period and the impact of this use on enjoyment. Twitter has recently changed aspects of the platform, including adding the ability to live-stream sports (Collins, 2017). It would be important to repeat this study to include new affordances of the platform as it evolves.

As the study included all types of sport to broaden the sample, we are therefore unable to determine whether the results found here are specific to viewing one specific sport (e.g., football), as compared to others. The benefits and drawbacks of second screen viewing may vary by sport type with different flows in the action (e.g., baseball and soccer), as well as for team sport versus single player sport (e.g., golf and tennis). A final limitation involved the fact that this study was based on self-report measures, which can be inaccurate at times (McCambridge, Witton, & Elbourne, 2014).

There are several avenues of future research which could extend from the present study. Notably, reconceptualizing the notions of what constitutes social functions in a social media environment is one area for consideration. Beyond examining simply the use of Twitter and enjoyment, future research could look more specifically at how Twitter is being used, and how different content could affect enjoyment. Sport fans have demonstrated their tendency to derive more positive outcomes out of sport consumption than non-fans (Lewis & Weaver, 2015). Fans have also demonstrated their proclivity to find social ties among networks of other fans (Gantz, 2013; Gantz & Lewis, 2014). Therefore, future research should consider level of sport fandom as a variable in the investigation of enjoyment and second screen viewing. Additionally, research could examine the fan communities that Twitter creates. Are these communities permanent, or do they only last the length of a game or season? These questions could provide a rich basis for sport communication scholars.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Sight versus Sound: The Differential Impact of Mediated Spectator Response in Sport Broadcasts

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Despite the research examining various production aspects of broadcast sport, scholars have generally overlooked a ubiquitous sonic component of broadcasts—spectators' aural response (i.e., crowd noise). Such cues can act as a heuristic to influence perceptions of competition, particularly in the absence of visuals. Using continuous response measurement, this experiment demonstrates how mediated spectator response in the form of crowd noise yields enhanced perceptions of the exciting nature of broadcast sport, although the effect is diminished in televised sports. Implications are suggested for contemporary sport consumption, where aural cues can draw attention to game events in multi-screen viewing scenarios.

Owing to its recurrent nature, global implications, and value as an artifact with social, political, and cultural dimensions, the Olympic Games have provided considerable fodder for scholars examining mediated sports (e.g., Billings, Angelini, & Wu, 2011; Greer, Hardin, & Homan, 2009). However, the games also provide a compelling opportunity to emphasize an often-overlooked aspect of mediated sports, the importance of sound. David

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Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/hbem.

Baxter, the sound engineer for numerous Olympic games, has described the considerable and often creative efforts to reproduce the rich sonic ambience of competition for the millions watching remotely (Andrews, 2011; Sullivan, 2012). For example, he described the unique challenge of sonically representing rowing, where engine noise from vehicles (e.g., helicopters and boats) carrying camera crews drowns out the natural sound of the sport itself. His solution was to pre-record sound during practice and then use it during the actual broadcast. He argued in an interview with National Public Radio, "I don't think I'm cheating anybody.... The sound is there. It is the exact sound. It's just not necessarily real time" (Sullivan, 2012).

This example illustrates two important considerations regarding mediated sport. First, sport broadcasts are an artificial media creation, where numerous production personnel work to capture, edit, and present visual and aural elements surrounding competition to create unique experiences for their audiences (Cummins, 2017). As Comisky, Bryant, and Zillmann (1977) stated, whereas in-person spectators witness an unedited version of competition, "home viewers are exposed to a 'media event' that is the product of a team of professional gatekeepers and embellishers" (p. 150). Undoubtedly, this assertion rings even truer today, given the increasing resources invested in mediated sport broadcasts across platforms and technologies (Galily, 2014).

Second, the aforementioned example underscores the importance of sonic components of sport broadcasts in producing these media spectacles. Hagood and Vogan (2016) lamented, "The study of sound is largely absent from scholarship on sport in general" (p. 30). However, a few examples do suggest the importance of aural elements. Notably, Hocking (1982) coined the phrase "intra-audience" effects to describe how the response of one spectator influences another, and he explicitly acknowledged how the volume and intensity of co-spectator response influences one's own response to competition. Previous research has demonstrated such effects in mediated sports, where spectator response in radio broadcasts influenced audiences' perception of game events, particularly when play was dull (Cummins & Gong, 2017). However, research has failed to examine the impact of this ubiquitous aural component of sport broadcasts—crowd noise—in televised sports.

This failure to examine the influence of aural cues in evaluations of televised sport becomes more necessary, given the primacy afforded to visual production elements to imbue competition with added excitement (Greer et al., 2009). In sum, despite the considerable effort invested in using sound to craft televised sports, little research has probed the potential impact of such efforts, particularly across different consumption contexts where aural cues may have differential impact. Thus, the current study aims to test if mediated spectator response impacts perceptions of athletic competition, and if this impact varies based on whether visuals are present (i.e., televised) versus absent (i.e., audio only).

Literature Review

Aural versus Visual Dimensions of Sport Broadcasts

As previously noted, sport broadcasts are artificial creations or “media events” that result from a variety of production decisions aimed at increasing their entertainment value (Clarke & Clarke, 1982, p. 71; Cummins, 2017; Gruneau, 1989). Although some have emphasized the visual dimension of sport broadcasts in this transformation into a media event (Greer et al., 2009), sonic elements represent crucial components in transmitting and shaping perceptions of competition. For example, commentary represents arguably the most overt aural component of sport broadcasts, and studies have either probed biases reflected in commentary (Billings, Angelini, & Duke, 2010; Billings, Halone, & Denham, 2002) or the ability of commentary to influence perception of competition as aggressive (Comisky et al., 1977; Frederick, Lim, Chung, & Clavio, 2013; Sullivan, 1991). Such research is based on the argument that narrative or commentary surrounding competition impacts audience perceptions of the specific event or broader biases regarding athletes or sport in general (e.g., gender or racial biases).

However, an overlooked but ubiquitous component of the sonic dimension of sport broadcasts that can also influence the at-home audience is mediated spectator response (i.e., crowd noise). Referring to the impact of sound during in-person spectatorship, Hagood and Vogan (2016) argued that “fan noise constitutes a powerful reverberation that can feed back into the game that inspires it, serving as a sonic signature for fan groups and the cities they represent, affecting on-field events, becoming a character in media coverage, and shaking up—literally and figuratively—the built environments of league play” (p. 30).

Although Hagood and Vogan (2016) focused on the sonic properties of in-person spectatorship, they nonetheless noted how television broadcasters integrate the aural dimension of spectator response “to imbue game coverage with authenticity and excitement” (p. 31). Their observation emphasizes the strategic and deliberate construction of the aural component of sport broadcasts (Sullivan, 2014). Such efforts are not new. Early radio broadcasts of baseball employed creative techniques to re-create game sounds and spectator response (Schultz & Arke, 2016; Silvia, 2007). In his text on television sports production, Owens (2015) stressed the importance of sound within the telecast before reviewing the specific hardware used to capture and convey varied sounds from the stadium or playing field (e.g., parabolic microphones, hypercardioid microphones).

Capturing an array of sounds from multiple sources is an important element for sport broadcasters, and numerous writers have observed that contemporary sports broadcasts incorporate sounds from dozens of microphones placed throughout the event venue (Daley, 2013, 2016). As a case in point, the 2015 college football national championship employed more than 100 microphones to capture game and stadium sounds, which were separately mixed in a field production truck before

being passed along to an audio technician to be incorporated into the game broadcast. Consider also the College World Series (CWS) in intercollegiate baseball. During the 2016 CWS, dozens of microphones were placed throughout the stadium to capture the rich ambient sound surrounding the game (Shoro, 2016). Among the more than 100 microphones used in producing broadcasts of the competition were microphones hanging from the upper deck above spectators, placed to better capture the sounds emanating from the crowd. This investment of resources to capture sonic elements is a testament to the role that sound plays in a broadcast's ability to affect remote spectators.

Although media scholars have generally overlooked the impact of spectator response as a sonic component of sport broadcasts, research from other domains demonstrates this type of response as an important cue that influences both perceptions and behavior. For example, it has been cited as an overt contributor to perceived shifts in "momentum," or positive psychological states for athletes that yield improved performance (Burke, Aoyagi, Joyner, & Burke, 2003). Likewise, research has demonstrated how spectator response acts as a heuristic to influence referees' decision-making in favor of a home team (Nevill & Holder, 1999). Furthermore, research has demonstrated the impact of audience response of another kind—laughter. Neuendorf and Fennell (1988) argued that laughter serves as a social cue to shape response to humor, and studies probing the influence of laughter and mirth responses (e.g., smiling) have shown its impact in both in-person and mediated contexts (Chapman, 1973; Gruner, 1993; Lawson, Downing, & Cetola, 1998; Martin & Gray, 1996; Neuendorf & Fennell, 1988).

Despite these insights from other contexts, little research has examined the impact of sound in mediated sports. However, one recent study drew upon Hocking's (1982) concept of intra-audience effects to explore how mediated spectator response impacted evaluations of radio broadcasts of competition (Cummins & Gong, 2017). In that study, listeners heard either radio broadcasts of women's college soccer or identical excerpts that had been manipulated to include additional spectator response. While listening, they continuously reported their perceptions of how exciting they judged the competition to be. The authors reported that listeners who heard the manipulated versions rated game events as more exciting as competition unfolded over time. However, they found that this effect was only evident when competition was relatively dull; the enhanced spectator response did not impact perceptions of game events that were intrinsically exciting.

This finding resonates with the argument that production elements can be strategically used to enhance dramatic aspects of mediated sports—even when it is intrinsically absent—such as in dull play or competition (Clarke & Clarke, 1982). Indeed, Gruneau's (1989) case study of production routines in televised sports notes that much of what comprises athletic competition is boring. As such, the broadcaster's job is to enhance competition to imbue a heightened sense of excitement through both narrative elements surrounding competition and production techniques that "translate 'what happened' into a program that makes 'good television'" (p. 136).

Impact of Visual versus Aural Information on Perception

Although Cummins and Gong (2017) provided evidence attesting to the impact of sonic enhancement of competition, a notable oversight of that study is the failure to examine such impacts in televised competition. As previously noted, considerable effort is invested in capturing sonic aspects of televised sports. Moreover, when viewing competition on TV, at-home spectators have the benefit of both aural and visual information to form perceptions regarding the nature of game action. In such contexts, aural cues may have less impact. Nonetheless, relatively little research has examined the relative superiority of sight versus sound in forming perceptions of competition, and extant research has focused on the primacy of commentary in shaping viewer perception of athlete hostility or aggression during competition (Comisky et al., 1977; Sullivan, 1991). However, commentary reflects only one relatively manifest aural element among many within sports broadcasts. Furthermore, these studies examine the relative influence of sight versus sound when both channels of information are presented, not in contexts such as sports radio, where only aural cues are available. Given the obvious differences in the information available in televised versus radio broadcasts, one would expect that mediated spectator response could play a differing role across media platforms.

Theory from the persuasion literature provides a useful framework for examining how audiences form perceptions of sport broadcasts where visual cues may be present (i.e., televised sports) or absent (i.e., radio broadcasts). Specifically, dual-process models of persuasion—such as elaboration likelihood (O’Keefe, 2013) or the heuristic-systematic model (Chen & Chaiken, 1999)—both suggest that visual information within sports telecasts supersedes aural information in forming judgments. The heuristic-systematic model (Chen & Chaiken, 1999) proposes two basic modes of processing where judgments can be made—systematic and heuristic processing. Systematic processing involves scrutiny of judgment-relevant information (e.g., team performance). In contrast, heuristic processing involves reliance on secondary heuristic cues (e.g., spectator response) in judgment formation (Chen & Chaiken, 1999). These heuristics represent cognitive shortcuts that influence judgments when individuals are unable or unmotivated to more thoroughly process a message. Notably, research has posited audience response as a heuristic cue that influences judgments of the quality of a persuasive argument (Axsome, Yates, & Chaiken, 1987; Nabi & Hendricks, 2003).

Hypotheses

By this logic, spectator response may serve as a consensus heuristic—the game *must* be exciting because of the observed intensity of spectator response. Independent of whether sports are seen or heard, this explanation supports Hocking’s (1982) notion of intra-audience effects. Thus, the study offers the following hypotheses:

H_{1a}: Enhanced intra-audience response will generate increased perceptions of the exciting nature of competition.

H_{1b}: Perceptions of the exciting nature of competition elicited through enhanced intra-audience response will increase over time as play unfolds.

Furthermore, scholars have noted that much of organized sport is intrinsically dull (Barnett, 1990), and the work of sports producers is to enhance dull competition through production techniques (Clarke & Clarke, 1982; Cummins, 2017; Gruneau, 1989). However, previous research demonstrated that the impact of spectator response on audience perception of competition was evident only when game play was intrinsically dull (Cummins & Gong, 2017). Thus, the following hypothesis is offered:

H₂: Enhanced intra-audience response will have greater impact on intrinsically dull competition, and conversely, have diminished impact on intrinsically exciting competition.

In addition, viewers of televised sports are simultaneously presented with information from two channels that variably craft perception of the event. If visuals represent a dominant form of information (i.e., a central cue) in televised sports (Greer et al., 2009), then aural spectator response acts as a secondary peripheral cue in deference to the visual dimension of the broadcast. Thus, effects of mediated spectator response on perception of competition should be diminished. In contrast, absence of visuals hinders systematic processing and encourages heuristic processing that is more reliant on peripheral aural cues. In this context, mediated spectator response could hold greater sway over perceptions of game events as it serves to convey information about the nature of competition. The final hypothesis examines this differential impact of spectator response in televised sports:

H₃: Enhanced intra-audience response will have greater impact in the absence of visual cues (i.e., audio-only broadcasts) relative to when visual information is present.

Method

A 2 (presentation format: audiovisual vs. audio only) x 2 (treatment) x 3 (intrinsic excitement of play) x 10 (time segment) mixed-factors experiment was conducted. Presentation format and treatment served as between-subjects factors, whereas excitement of play and time segment were within-subjects factors. Participants were randomly assigned to viewing conditions where they saw (or heard) raw or edited stimuli that varied in intrinsic excitement of play.

Participants

A sample of 117 participants was recruited from communication courses at a large southwestern university to participate in the study in exchange for extra credit or to fulfill course research requirements. Participants' age ranged from 18 to 30 ($M = 21.12$, $SD = 2.15$); a slight majority of participants was female ($n = 74$, 63.2%).

Participants completed a paper-and-pencil questionnaire to gauge their level of general interest in sports (sports fandom questionnaire, Wann, 2002), involvement with soccer (Beaton, Funk, Ridinger, & Jordan, 2011) as well as consumption of the 2012 Summer Olympics in general and women's soccer in the 2012 Summer Olympics. Reported fanship was slightly above the scale midpoint ($M = 6.04$, $SD = 2.80$), whereas involvement with soccer was relatively low ($M = 2.56$, $SD = 2.27$). Two-way ANOVAs found no differences in these as a function of viewing format or the experimental treatment (all $p > .05$). Thus, the design effectively balanced these individual characteristics across conditions.

On average, participants reported watching almost 9 hours of the 2012 Summer Olympics ($M = 8.88$, $SD = 7.58$) but only 2 hours of women's soccer ($M = 1.98$, $SD = 2.73$). No between-groups differences in Olympics viewing were found as a function of assignment to experimental conditions.

Stimuli and Independent Variables

Stimuli consisted of six excerpts of women's soccer televised during the 2012 London Summer Olympics. Clips were selected from recordings of competitions between the U.S. women's team and Colombia, France, or Japan. Soccer was selected due to the low level of interest and involvement with the sport relative to potentially more familiar sports (e.g., football or basketball). As such, audiences may rely more on heuristic cues such as the experimental manipulation of intra-audience response to form judgments (e.g., Axsome et al., 1987).

Stimuli ranged in duration from 51 to 55 seconds and featured the same two commentators. To standardize length for analysis of over-time response data, only the first 50 seconds of data were examined. Stimuli were displayed on a forward-mounted projection screen and in stereo through ceiling-mounted speakers at uniform volume.

Presentation format of the stimuli served as a between-subjects factor and was varied by presenting clips that contained both audiovisual or audio only. For those who only heard the audio of the competition, they were instructed that the stimuli were taken from satellite radio broadcasts of the 2012 Olympic games. For those in the audiovisual condition, the audio track of the stimuli was identical.

The experimental treatment was a between-subjects factor and was manipulated by creating two versions of the stimuli. In the enhanced spectator response condition, audio of crowd noise and cheers was added throughout the excerpts to be

complimentary to game events (i.e., spectator response became more prominent leading up to goal attempts). In the control condition, participants viewed (or listened) to clips that did not feature a manipulated audio track. The native audio of all stimuli still consisted of play-by-play commentary, as well as the spectator response captured within the original broadcast.

Systematic variation of the intrinsic excitement of play served as a within-subjects factor—such that participants heard or saw six excerpts of competition that were alternately dull, moderately, or highly exciting—with two clips representing each level. This was achieved through a pretest where 34 participants, drawn from the same population as the main study, evaluated 22 candidate stimuli. They indicated agreement with three statements such as “The game action was intense in this clip.” Items were paired with 11-point Likert-type response scales anchored by 0 (*Strongly Disagree*) and 10 (*Strongly Agree*). Pretest participants viewed and evaluated candidate stimuli at individual computer workstations equipped with MediaLab software (Jarvis, 2014), and unedited game audio was delivered through headphones. Presentation order of the candidate stimuli and dependent measures was randomized. Responses were averaged per clip to generate a single measure of intrinsic excitement for each stimulus (Cronbach’s $\alpha = .91$).

Based on pretest results, six clips were selected to represent the three levels of intrinsic excitement of play (i.e., 2 dull, 2 moderately exciting, and 2 highly exciting). In the main study, participants saw (or heard) all six clips in one of four randomized orders. While those intrinsically exciting clips contained the start of competition and moderately exciting clips contained missed goals, the most exciting stimuli contained the goal-scoring clips of the U.S. women’s soccer team. Thus, excitatory nature of the stimuli was operationally coupled with success of offensive play (i.e., no attempts, missed goals, and goals). Repeated-measures analysis of variance (ANOVA), where pretest evaluations served as the dependent measure, supported between-groups differentiation, $F(1,33) = 89.62, p < .001, \eta^2_p = .73$. To simplify the design and guard against inflated error rates (Smith, Levine, Lachlan, & Fediuk, 2002), responses to dependent measures in the main study were averaged across the two stimuli at each level of excitement of play, removing the repetition factor from the design.

Finally, to examine participant response to the experimental manipulation over time, time segment served as a within-subjects repeated factor. Participants’ continuous responses registered through the handheld dials were resampled to yield 10 time intervals representing 5 seconds each (Biocca, David, & West, 1994).

Procedure and Dependent Measures

Participants were recruited to take part in a study where they were asked to evaluate broadcasts of U.S. women’s soccer from the 2012 Olympics. Perceived excitement of play served as the key dependent variable in the study and was operationalized in two forms: over-time via online measurement (i.e., during consumption) and post-test.

To capture changes in participant response over time, a repeated measure of moment-to-moment (MTM) perceived excitement was generated over 10 equal 5-second time periods using a continuous response measurement technique. As opposed to summary post-test assessments, the approach continuously records the changing nature of individual responses, based on the dynamic nature of communication messages (Biocca et al., 1994; Saks, Compton, Hopkins, & El Damanhoury, 2016). In this study, the Perception Analyzer (2010) hardware and software was used to present study stimuli and synchronously record participant responses. Throughout viewing, participants used hand-held dials to continuously report agreement with the statement, "This clip is exciting." Response options ranged from 0 (*Strongly Disagree*) to 100 (*Strongly Agree*). At the start of each stimulus, participants were instructed to initially set their dials at the midpoint of the response scale (50), which represented a neutral response (e.g., Burton, McAlister, & Hoyer, 2015). Scores were transformed offline to represent change from this starting point, such that positive values represent agreement and negative scores represent disagreement. Raw data were initially captured at a sampling interval of 1 Hz and resampled offline to yield 10 equal 5-second time periods.

In addition, post-test perceived excitement was separately operationalized via the average of two statements presented after each stimulus: "The game action was really intense in this segment," and "The game play in this clip was pretty boring" (reversed) ($r = .76$). Items were paired with 11-point response scales (0 = *strongly disagree* and 10 = *strongly agree*).

To serve as a manipulation check, perceived spectator response was also measured following each clip through two items paired with 11-point response scales ($r = .88$): "You could tell the crowd was really into the game," and "It sounded like the fans were really fired up." These measures were presented in random order after each stimulus.

Results

Manipulation Check

To verify the effectiveness of the experimental manipulation of spectator response, a repeated-measures ANOVA was conducted where the posttest measure of perceived spectator response served as the repeated dependent variable. The experimental treatment and viewing format served as between-subjects independent variables and excitement of play (i.e., dull, moderate, or highly exciting) served as a within-subjects variable. That analysis found a successful effect of the manipulation, $F(1, 113) = 13.88$, $p < .001$, $\eta^2_p = .11$. Those who heard or saw excerpts with manipulated spectator response reported a greater perception of the intensity of that response ($M = 6.73$, $SD = 1.78$) than those who saw or heard unedited stimuli ($M = 5.92$, $SD = 1.21$).

Effects of Spectator Response on Evaluation of Competition

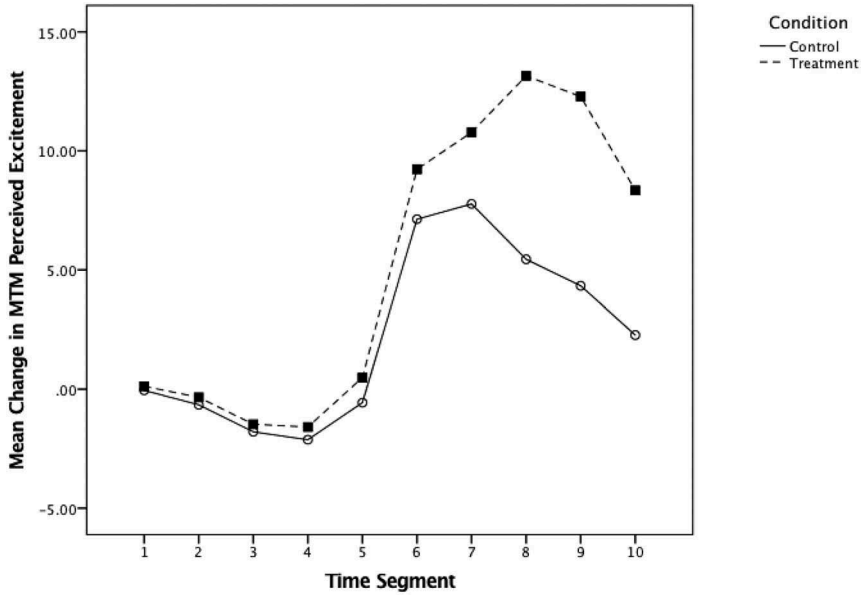
The first hypothesis predicted that enhanced spectator response would yield increased evaluations of the exciting nature of game play. A pair of tests were conducted to address this hypothesis, the first examining the post-test measure of perceived excitement and the second examining the over-time, moment-to-moment measure. In the first test, a mixed-measures ANCOVA was conducted where presentation format (audio only vs. audiovisual) and experimental treatment served as between-subjects independent variables, and excitement of play was a within-subjects variable. For all tests, sport fandom, soccer involvement, and participant sex were entered as covariates in the model. That test yielded a main effect for the experimental treatment, $F(1, 110) = 7.88$, $p = .006$, $\eta^2_p = .07$. Group means revealed that participants who saw or heard the stimuli with enhanced spectator response rated the game play as more exciting ($M = 5.71$, $SD = 1.13$) than those who saw or heard the unedited stimuli ($M = 5.22$, $SD = 1.05$).

The hypothesis was also tested with a mixed-measures ANCOVA, where the moment-to-moment perceived excitement ratings served as repeated dependent measures over 10 time segments. That test yielded a main effect of the treatment, $F(1, 110) = 8.65$, $p = .004$, $\eta^2_p = .07$. Overall, average MTM perceived excitement scores across the 10 time periods for those who saw or heard the enhanced stimuli were significantly higher ($M = 4.90$, $SD = 4.66$) compared to the unedited stimuli ($M = 2.08$, $SD = 6.39$).

The second part of the first hypothesis predicted that this effect would become more pronounced over time. To test this prediction, results of this second test were consulted to examine change in MTM perceived excitement over time. The Treatment $\times$ Time Segment interaction was significant, $F(2.62, 287.92) = 12.08$, $p < .001$, $\eta^2_p = .10$. As seen in [Figure 1](#), the effect of the treatment was evident throughout the stimuli but became more pronounced in the second half of the stimuli. Thus, both H_{1a} and H_{1b} were supported.

H_2 predicted that the effect of enhanced spectator response would be more evident for competition that was dull and was tested by examining the Treatment $\times$ Excitement of Play interactions from the previous tests. For the test where the posttest measure of perceived excitement served as the dependent variable, the interaction was not significant, $F(2, 220) = 1.30$, $p = .28$, $\eta^2_p = .01$. Regarding MTM perceived excitement, the two-way interaction was also not significant, $F(2.12, 192.25) = 2.11$, $p = .12$, $\eta^2_p = .02$. Lastly, the three-way interaction of Treatment $\times$ Excitement of Play $\times$ Time Segment was not significant, $F(4.04, 444.58) = 1.87$, $p = .11$, $\eta^2_p = .02$. Thus, the effect of the treatment observed in response to H_1 was independent of the dull or exciting nature of game events, and H_2 was not supported.

Figure 1
Effect of Treatment on Perceived Excitement over Time



Effects of Viewing Format on Evaluation of Competition

The final hypothesis predicted that the effect of enhanced spectator response would be more evident among those who only heard the stimuli relative to those who both saw and heard the game excerpts. To address this hypothesis, the Treatment x Format interactions from the initial tests were examined. With respect to the posttest measure of perceived excitement, that interaction was not significant, $F(1, 110) = .26, p = .61, \eta^2_p = .00$. Furthermore, the Treatment x Format interaction, where moment-to-moment perceived excitement served as the repeated dependent measure, was also not significant ($F(1, 110) = 2.02, p = .16, \eta^2_p = .02$). However, examination of the Treatment x Format x Time Segment interaction revealed a different picture, $F(2.62, 287.92) = 4.78, p = .004, \eta^2_p = .04$. As seen in Figure 2, the effect of the experimental treatment became more evident over time for those who only heard the game events relative to those who both saw and heard competition. For those who watched competition, the effect of the treatment was less pronounced.

To examine this interaction further, the effect of the treatment independently for each time segment in the second half of the stimuli was analyzed. Results of these tests are summarized in Table 1. For those who only heard the stimuli (i.e., the

Figure 2
Effect of Manipulated Spectator Response on Perceived Excitement over Time as
a Function of Presentation Format

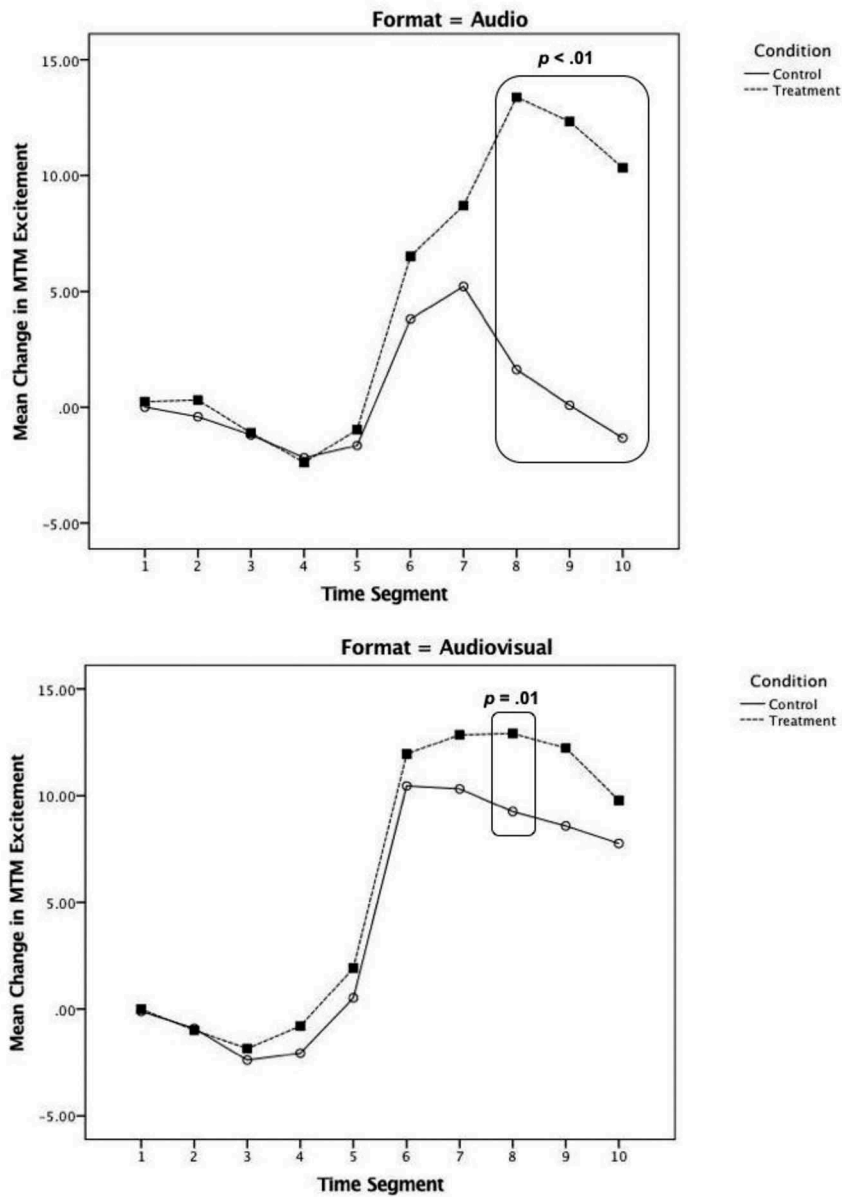


Table 1
Effect of Manipulated Spectator Response on MTM Perceived Excitement for Audio-Only Stimuli

	<i>F</i> Statistic	<i>p</i> value	Effect Size (partial Eta squared)	Audio Mean (SD)	Audiovisual Mean (SD)
Segment 8	8.32	$p = .006$	.14	8.34 (8.20)	1.23 (10.75)
Segment 9	19.70	$p < .001$	.28	12.33 (8.41)	.09 (11.71)
Segment 10	16.60	$p < .001$	.25	8.62 (8.27)	-2.39 (11.63)

audio-only condition), a significant effect of the treatment was observed in the final three segments of the stimuli, roughly 15 seconds in total duration. Furthermore, large effect sizes were observed within those final segments (Cohen, 1988).

Regarding those in the audiovisual (i.e., televised) condition, a significant effect of the experimental manipulation of spectator response was evident, but only in the eighth time segment, where a medium effect size was observed, $F(1, 56) = 6.60$, $p = .01$, $\eta^2_p = .11$. Within the ninth segment, the effect of the treatment only approached significance, $F(1, 56) = 3.78$, $p = .06$, $\eta^2_p = .06$ and was diminished by the final time segment. Thus, enhanced spectator response did impact perceived excitement of play within both audio-only and audiovisual formats, but that effect was more pronounced and of a longer duration for those who only heard the stimuli compared with those who both saw and heard competition.

Discussion

Despite the considerable efforts invested in capturing sonic aspects of competition, little research has examined how this aspect of mediated sport impacts the viewing experience for at-home spectators. Although recent research has demonstrated the effect of spectator response in radio broadcasts of competition (Cummins & Gong, 2017), such aural enhancements may have a weakened effect when visual cues provide additional information for audiences to use when forming judgments. This study sought to test how this ubiquitous sonic element of broadcast sport can impact audience perceptions of the exciting nature of competition based on the presence or absence of visuals. Results indicated how this aural component of sports broadcasts led to inflated perceptions of the exciting nature of game events. Although the effect was present for viewers of televised competition, the magnitude and duration of the effect was diminished relative to radio broadcasts.

As predicted, the manipulation of spectator response led study participants to report enhanced ratings of the perceived excitement of play, both for participants

who watched (i.e., televised) and heard (i.e., audio only) competition. Furthermore, this effect was observed through both posttest evaluations and over-time assessments of audience perception. This clearly aligns with research from other domains where similar effects were observed (e.g., laugh tracks; Gruner, 1993). Thus, these observable audience responses within sports play a significant role in shaping how remotely located spectators perceive competition (Hocking, 1982).

Although this effect was observed for study participants who only heard as well those who saw competition, the impact of spectator response was much more evident for audience members who only heard competition. Analysis of over-time data clearly speaks to these effects. As seen in Figure 2, for those who watched game events, enhanced spectator response generated enhanced evaluations of game play, but for only a very brief period. Although evaluations of the exciting nature of competition were consistently higher when the enhanced spectator response was included, the difference was statistically significant for only a brief time, and the magnitude of the effect was relatively weak.

In contrast, the effects were more prolonged when the audience only heard competition. For those participants, the difference in perception of game events was greater and for a longer duration. When visual information is absent, the sonic aspect of spectator response served as a heuristic cue that exerted greater influence. Thus, these results support predictions surrounding systematic vs. heuristic processing of message content based on mediated spectator response (Axsome et al., 1987). When visuals were present, viewers ostensibly relied more on visual information to shape their perception of events, and the aural component of the broadcast yielded diminished influence on perception formation.

Future research should engage in theoretically driven exploration of systematic vs. heuristic processing of broadcast sports in two ways. First, visual aspects of spectator response can be probed in addition to sonic cues to examine the impact of fans who are both seen and heard (e.g., Nabi & Hendricks, 2003). Such depictions of fan response are an integral part of capturing the "stadium event," or the sequence of activities happening within the athletic venue in addition to actual competition (Williams, 1977). Research from other domains demonstrates how spectator response can enhance the persuasive potential of content in both interpersonal (Hylton, 1971) and mediated contexts (Nabi & Hendricks, 2003). In the same way, responses of in-stadium spectators could influence perception of competition along multiple criteria. Second, in addition to the study of message content, research should incorporate individual differences that might influence systematic vs. heuristic processes to examine the interaction of user and content variables. For example, viewers with greater knowledge of or affinity for a sport might more strongly rely on visual cues to engage in systematic processing, whereas sonic cues might have greater impact on those with less knowledge.

From a practical or applied perspective, this finding partially validates sports producers' efforts to capture and transmit this element of competition in the creation of this artificial media product. In his analysis of how NFL broadcasters work to capture and transmit both on-field competition and surrounding events within the venue, Williams

(1977) noted that, "The only way in which the stadium event was consistently signified was in the audio portion of telecasts" (p. 136). His observation asserts that spectator response represents an important omnipresent sonic element of the stadium event, and these results provide empirical evidence demonstrating the impact—however small—of spectator response as a sonic component of sport broadcasts.

At first blush, this difference in the strength and duration of the effect of spectator response in different consumption settings suggests that broadcasters' efforts to capture sonic aspects of competition may be of trivial importance, particularly for televised sport. However, additional considerations may suggest otherwise. First, it should be noted that the experimental manipulation employed here was relatively subtle in the effort to preserve ecological validity. A stronger, more overt manipulation such as complete removal of spectator response—may likely yield more profound impacts on audience perception of game events and larger effect sizes—but possibly at the expense of ecological validity.

Second, this study focused on how spectator response impacted perceptions of the exciting nature of competition. However, enhanced spectator response could yield impacts beyond the perception of play, which could further validate the work of sound engineers in television sports. The nature of sport consumption in a second- or multi-screen media environment illustrates the potential importance of the aural dimension of sports broadcasts and makes the implications of this study more apparent. For example, today's viewers often do not consistently allocate visual attention to the event on a primary screen (Galily, 2014; Gantz & Lewis, 2014; Tang & Cooper, 2013). Indeed, studies of media multitasking in other genres demonstrate the considerable attention to secondary screens that detracts from attention to the primary screen (Holmes, Josephson, & Carney, 2012). In such contexts, aural properties of the broadcast can serve a valuable role in alerting viewers to events in game play.

Auditory cues such as mediated spectator response may remind the at-home viewer to attend to game events. Thus, from an applied perspective the work of sound engineers may play a heightened role in contemporary viewing contexts where attention may be divided between onscreen competition and other events in the social environment (e.g., Eastman & Land, 1997). Thus, the small effects observed here may be more profound, as sonic cues could help orient viewers in an environment where multiple elements compete for attention. Furthermore, the current study validates efforts of sports marketers to grow in-person game attendance, as building stadium environments that foster excitement has long been of interest (e.g., Westerbeek & Shilbury, 1999). These results illustrate how capturing and transmitting the fervor of in-person spectators can in turn impact responses of those viewing (or listening) remotely.

Limitations and Directions for Future Research

Despite the value of these findings, select aspects of the study design restrict the conclusions drawn from the study's results. Perhaps the greatest limitation is the

threat to ecological validity posed by stimuli within the audio-only competition. To preserve the internal validity of the design and allow comparisons between experimental conditions, the audio channel of study stimuli was kept uniform apart from the experimental manipulation. Production personnel within sports radio undoubtedly adopt unique approaches to producing broadcasts relative to televised sports. For example, commentators provide richer descriptions of game events that help the spectator construct a visual representation in their mind (Schultz & Arke, 2016). However, keeping the commentary uniform across conditions was necessary to isolate the impact of mediated spectator response—the explicit purpose of the project. Future research should explore the unique approaches to transmitting sport in radio, and such inquiry could take both qualitative (e.g., interviews with personnel or textual analyses of broadcasts) or quantitative (e.g., controlled experiments) approaches.

A second limitation is the viewing/listening context. Participants consumed and rated the stimuli in a controlled research laboratory, which is unlike a natural viewing/listening environment. Thus, study participants may have been more attentive to game events as an artifact of testing. Future research could examine perception of competition in varied viewing contexts, such as homes or group environments. On the one hand, the impact of mediated spectator response may be trivial in such environments. However, spectator response could plausibly have unique benefits in such contexts. As previously noted, spectator response could serve as an informational cue to redirect attention to the competition, and future study designs could work to explicitly measure attention as a key outcome.

One possible avenue for continued study is the examination of other aspects of the sonic dimension of mediated sports, as well as the study of visual aspects of spectator response. Production personnel use carefully placed microphones to capture an array of natural sounds from the field of play, in addition to spectator response (Andrews, 2011; Sullivan, 2014). Much like spectator response, integration of these sounds into the sonic field for sports broadcasts may be strategically used to shape audience response. For example, small microphones placed within the protective gear for professional football players can capture the sound of athletes colliding, and these sounds can be integrated into the soundtrack to create an immersive aural experience for the at-home spectator (Farmer, 2011). Carefully crafted research designs could isolate the effects of these sonic enhancements to examine how they impact the viewer experience.

Lastly, although the present study has focused on spectator response as an aural dimension of sports broadcasts, this ignores the visual component of spectator response that also comprises televised sport broadcasts. As previously noted, continued exploration of systematic vs. heuristic processing of visual or aural cues in spectator response to sports can advance this vein of inquiry in a theoretically meaningful way. This study demonstrates that manipulation of spectator response as an omnipresent element within the soundtrack of sport broadcasts can lead audiences to perceive competition as more exciting. By demonstrating the

differential impact of spectator response across different settings, the present study lays a solid foundation for a rich line of inquiry exploring varied aspects of the sound of broadcast sports.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Media Coverage of Adolescent and Celebrity Suicides and Imitation Suicides among Adolescents

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Media Coverage of Adolescent and Celebrity Suicides and Imitation Suicides among Adolescents

Sang Yup Lee

Suicide is the second leading cause of death among adolescents in the United States. Imitation plays an important role in adolescent suicides. Identification theory suggests that media coverage of adolescent suicides can increase imitation suicides among adolescents. The present study examines this possibility using data collected from South Korea. It also explores the relationship between media coverage of celebrity suicides and suicide rates among adolescents. We found that adolescent suicides increase after media coverage of either an adolescent's suicide or a domestic celebrity's suicide.

Suicide is the second leading cause of death among adolescents in the United States, following “unintentional injuries,” and the tenth leading cause of death among adults in 2014 (Heron, 2016). As such, suicide is a significant public health problem among American adolescents. Adolescents' suicidal behaviors are influenced by several factors, which include (but are not limited to) mental health problems (e.g., depression), physical health problems, family relationships, peer influence, schooling, substance abuse, the influence of media, ethnic or cultural differences, and exposure to stressful events (Ayyash-Abdo, 2002; Beautrais, 2000; Bridge, Goldstein, & Brent, 2006; Evans, Hawton, & Rodham, 2004; Nock et al., 2013).

Beyond these factors, modeling and imitation play an important role in adolescent suicides (Gould, Petrie, Kleinman, & Wallenstein, 1994; Gould, Wallenstein, Kleinman, O'Carroll, & Mercy, 1990; Insel & Gould, 2008). In other words, exposure to suicidal behaviors tends to lead adolescents to copy such behaviors. Adolescents can be easily exposed to suicides through the media. It has been found that media portrayals of suicide lead to an increase in adolescent suicides (Ayyash-Abdo, 2002; Phillips & Carstensen, 1986; Stack, 2000, 2003). Both news reports about suicide and fictional portrayals of suicide in soap operas and movies have been found to influence adolescent suicide rates. Media coverage of a celebrity suicide exerts a larger influence than other types of media portrayals (Stack, 2000).

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Although numerous studies have examined the impact of media portrayals on adolescent suicides, some important topics have not been sufficiently explored. The present study examines whether adolescent suicidal behaviors are influenced by media coverage of adolescent suicides. Prior studies have found that teenagers are influenced by exposure to the suicidal behaviors of adolescent victims that are unknown to them personally (e.g., Gould, 2001; Haw, Hawton, Niedzwiedz, & Platt, 2013; Poijula, Wahlberg, & Dyregrov, 2001). This suggests that teens could be influenced by media coverage of adolescent suicides.

This paper also looks at media coverage of celebrity suicides more generally, using six years worth of media data to analyze whether there are more suicides among adolescents during the weeks that follow media coverage of a celebrity suicide. Studying the data in this way allows us to compare the impact of media coverage of adolescent and celebrity suicides, determining which type of story is more likely to increase the suicide rate among adolescents. For this analysis, we have used South Korean media coverage and suicide data. The suicide rate in South Korea is the highest throughout the world (36.1/100,000 in 2015) (WHO, 2017). Further, suicide is the first leading cause of death among adolescents in South Korea (Yoon, 2015).

Theoretical Background

Prior studies of adolescent suicides have found that some adolescents tend to attempt suicide by imitating the suicides of others. There are two main channels through which adolescents learn about the suicides of others. First, they can learn about or be exposed to the suicides of their friends and acquaintances in offline settings. Such exposure often leads them to imitate suicidal behaviors (Beautrais, 2000; Blum, Harmon, Harris, Bergeisen, & Resnick, 1992; Borowsky, Ireland, & Resnick, 2001; Borowsky, Resnick, Ireland, & Blum, 1999; Brent et al., 1989; Cerel, Roberts, & Nilsen, 2005; Hazell & Lewin, 1993). In addition to observations of peer suicidal behaviors, exposure to suicidal thoughts and ideation can influence adolescent suicidal behaviors (Prinstein, Boergers, & Spirito, 2001).

The significant influence of peers' suicidal behaviors and attitudes toward suicide can be explained by the high susceptibility of adolescents to peer influence (Ayyash-Abdo, 2002). It is known that adolescents are in a period when close friendships, emotional support from friends, and identification with peers are crucial (Claesen, Brown, & Eicher, 1986). They share secrets and feelings, and help each other solve personal problems (Ayyash-Abdo, 2002). During this stage, they tend to significantly rely on their friends for emotional support (Steinberg & Monahan, 2007). This significant dependence on peers in adolescence makes adolescents susceptible to peer influence.

It has been found that adolescent suicidal behaviors are influenced, not only by friends, but also by peers whom the individual adolescents may not know personally (Gould, 2001; Poijula et al., 2001; Steede & Range, 1989). This suggests that

adolescents can be influenced by peers in similar circumstances, even if they are not friends. According to the identification theory proposed by Kelman (1958), individuals tend to identify with others who are similar to themselves and to develop an attachment that encourages them to copy others' behavior. Accordingly, adolescents who are exposed to adolescent suicides may be influenced by them, especially if the victims were in similar situations, such as facing mental health issues or school problems (Gould, 2001).

The suicidal behaviors of adolescents are also significantly influenced by media portrayals of suicide (Ayyash-Abdo, 2002; Martin, 1996; Phillips & Carstensen, 1986; Stack, 2000, 2003; Zahl & Hawton, 2004). Prior studies have found that news media coverage of celebrity suicides (e.g., Stack, 2000, 2003; Wasserman, 1984) and fictional stories about suicides, such as those in movies or soap operas (e.g., Ostroff, Behrends, Lee, & Oliphant, 1985; Schmidtke & Häfner, 1988) influence adolescent suicidal behaviors. These negative copycat suicides are known as a "Werther effect" (Pirkis & Blood, 2001a, 2001b; Stack, 2000, 2003, 2005). However, it should be noted that media plays not only a negative role in suicides, but also a positive role. The positive role of media is known as a "Papageno effect" (Niederkröthaler et al., 2010). The Papageno effect refers to positive impacts of media coverage on individuals who have overcome suicide crises (Niederkröthaler et al., 2010). In this study, we focus on the potential effects of media coverage of adolescent suicides on copycat suicides among adolescents.

Several theoretical perspectives have been used to explain the effects of media on copycat suicides. Identification theory (Kelman, 1958) is one of the theoretical frameworks that has been used most frequently (Blood & Pirkis, 2001). According to Kelman (1961, p. 63), identification can be defined as "a persuasion process that occurs when an individual adopts behavior of another individual or group on the basis of a 'self-defining' relationship." The identification theory suggests individuals are likely to mimic a celebrity's suicide mainly because they identify with the celebrity, which means that the individual forms close emotional and psychological bonds with the celebrity (Basil, 1996; Brown, 2004; Brown & Basil, 1995; Stack, 2000).

There are two distinctive identification processes that can occur in copycat suicides, horizontal and vertical identifications (Blood & Pirkis, 2001; Stack, 2000, 2003). First, horizontal identification refers to a case in which people identify more strongly with those who possess characteristics similar to their own characteristics (Blood & Pirkis, 2001), which indicates that there tend to be more copycat suicides among people who share characteristics with a celebrity who died by suicide. Many studies have found that imitation effects were most notable and significant among the individuals who shared similar characteristics, such as gender and age with the celebrities, who died by suicide (e.g., Ji, Lee, Noh, & Yip, 2014; Niederkröthaler et al., 2009; Schmidtke & Häfner, 1988; Stack, 2005). This implies that the impact of a media portrayal of suicide on adolescent suicide rates can vary, reflecting similarities between the victim and the particular adolescent.

The horizontal identification principle also suggests that media coverage of adolescent suicides, such as news reports about an adolescent who died by suicide, may influence other adolescents who share similarities with the victim. These similarities might be evident in the age of the victim and potential reasons given for the death by the news media. These sources of similarity may encourage imitation among those adolescents who are vulnerable to considering suicide and see the victim as having been in a similar situation. To examine this possibility we propose the following hypothesis:

H₁: There will be more suicides among adolescents during the weeks that follow the media coverage of an adolescent's suicide than when there is no such media coverage.

Vertical identification refers to a phenomenon in which individuals mimic behaviors of famous individuals who are admired and looked up to (Blood & Pirkis, 2001). This suggests that the public are likely to imitate behaviors of celebrities because celebrities are famous and popular among the public (Wasserman, 1984). Accordingly, some adolescents are likely to identify with celebrities because celebrities are admired by the adolescents. Prior studies have found that when individuals are exposed to a celebrity in the media over time, they tend to develop a perception of intimacy and identification with that celebrity, mainly through parasocial relationships and interactions (Basil, 1996; Stack, 2000, 2003; Wong, Lookadoo, & Nisbett, 2017). Due to this increased identification with the celebrity, individuals who are vulnerable to suicide and exposed to media coverage of a celebrity's suicide may copy the suicide. This finding also suggests that adolescents are likely to be more influenced by celebrities they admire, such as entertainment celebrities, than by political celebrities or members of the business elite.

Although numerous studies have focused exclusively on the influence of media coverage of celebrity suicides on adolescent suicidal behaviors (e.g., Gould, Jamieson, & Romer, 2003; Martin & Koo, 1997; Wasserman, 1984), these studies have examined limited aspects of the celebrity's influence on adolescent suicides. For example, Martin and Koo (1997) studied the influence of a single celebrity suicide on adolescents, and Wasserman (1984) investigated the influence of news reports about celebrity suicides that appeared on the front page of the *New York Times*.

As an attempt to fill the gap, this study examines the general impact of media coverage of celebrity suicides on adolescent suicide rates, using all of the news reports about entertainment celebrity suicides published in South Korea between 2010 and 2015. We have therefore proposed the following hypothesis:

H₂: There will be more suicides among adolescents during the weeks that follow the media coverage of a celebrity suicide than when there is no such media coverage.

By examining the first and second hypotheses together, we can compare the influence of media coverage of adolescent and celebrity suicides on adolescent suicide rates, something that has not been previously attempted.

Methods

The data on media coverage of suicides and suicide rates among adolescents for this study come from South Korea. In particular, we measured media coverage of adolescent suicides by counting the news reports covered by the three major TV networks in South Korea: KBS, MBC, and SBS, from January 1, 2010 to December 31, 2015. Prior studies have found that stories covered by major TV networks have a larger influence on imitation suicides than those covered by other types of news outlets (Stack, 2003). To find all of the news reports aired by the three South Korean networks during the study period, we used the most popular news aggregator in South Korea, Naver.com.¹ Naver aggregates all news articles published in South Korea.

Media Coverage of Adolescent Suicides

To search for suicide news reports using the computer program, we first collected all articles with “suicide” in the title, published on their respective websites by the three TV networks between 2010 and 2015. In order to identify the three TV networks’ online articles about adolescent suicides, we further searched for titles that included words such as “adolescent,” “students,” “high/middle school student,” and “teens.” We excluded titles containing the words, “attempt,” “rumor,” “plan,” “thought,” “prevention,” “education,” and “counseling.” To make sure that every article dealt with a confirmed adolescent suicide, two human coders further examined the collected articles. There were 26 cases of adolescent suicide covered by the three main TV networks during the six-year period. The number of adolescent suicides covered by the news media is reported in the first row of [Table 1](#). It shows that the most news media coverage of adolescent suicides occurred in 2012. The number of adolescent suicide coverage decreased after 2012. This decrease in adolescent suicide reporting might have been due to the government’s proactive efforts to monitor media reports about suicides (Kim, 2015).

Media Coverage of Celebrity Suicides

This study focuses on entertainment celebrities, mainly because they have been found to have a more significant influence on copycat suicides than other types of celebrity suicides do (Stack, 2000, 2003). The entertainment celebrities considered in this study include “singers,” “actors,” “actresses,” “models,” and “dancers.” As with researching adolescent suicide stories, we used Naver.com to find all of the news articles about

Table 1
Number of Adolescent and Celebrity Suicides Reported by the Media between 2010 and 2015

Year	2010	2011	2012	2013	2014	2015	Total
No. of adolescent suicides covered by media	3	3	11	6	2	1	26
No. of domestic celebrity suicides	4	4	2	2	2	3	17
No. of foreign celebrity suicides	3	1	0	1	2	1	8

entertainment celebrity suicides published by the three South Korean TV networks between 2010 and 2015. Twenty-five (25) stories about entertainment celebrities who died by suicide during the period—seventeen domestic and eight foreign celebrities—were found on the three Web sites. The second and third rows of Table 1 show the number of entertainment celebrities who died by suicide by year. Details of the celebrities are reported in Table 2.

Adolescent Suicide Statistics

The number of daily suicide deaths among South Korean adolescents aged between 13 and 19 from January 1, 2010, to December 31, 2015, was collected from Statistics Korea (<http://kostat.go.kr/portal/eng/index.action>). Detailed information about each suicide victim, including his or her gender, age, education, marital status, and date of death, was included in the data. There were 1,896 adolescent suicide victims between 2010 and 2015 (354 in 2010, 375 in 2011, 338 in 2012, 308 in 2013, 276 in 2014, and 245 in 2015). The number of suicides among adolescents decreased between 2014 and 2015. The actual reasons for this phenomenon were not identified, but some speculations can be made. First, the suicide rates might be low during those years due to the government's proactive efforts to reduce them (Kim, 2015). Second, according to the first row of Table 1, there were fewer news media reports about adolescent's suicides during those years. Thus, it is possible that such reduced media coverage about adolescent suicides might have led to fewer copycat suicides among adolescents.

Statistical Models

In order to test the hypotheses, we constructed a regression model. The model aimed to test the hypotheses, H_1 and H_2 . The model was estimated using the Poisson estimation method, mainly because the dependent variables were count variables and their values were not over-dispersed and did not have an excessive number of zeros (Wooldridge, 2010).

Table 2
Details of Celebrities Who Died by Suicide

Name	Domestic/Foreign	Type	Age	Gender	Year	Month	Day
Choi, Jinyoung	Domestic	Singer	39	Male	2010	3	29
Park, Yongha	Domestic	Actor	33	Male	2010	6	30
Lee, Hyerin	Domestic	Singer	25	Female	2010	10	26
Park, Hyesang	Domestic	Actress	29	Female	2010	11	15
Park, Jungmin	Domestic	Singer	37	Male	2011	2	28
Chae, Dongha	Domestic	Singer	30	Male	2011	5	27
Han, Chaewon	Domestic	Actress	26	Female	2011	10	9
Kim, Chooryun	Domestic	Actor	65	Male	2011	11	8
Jung, Ayool	Domestic	Actress	25	Female	2012	6	14
Nam, Yoonjung	Domestic	Actress	58	Female	2012	8	1
Kim, Soojin	Domestic	Actress	38	Female	2013	4	1
Kim, Jihoon	Domestic	Singer	40	Male	2013	12	12
Woo, Bongsik	Domestic	Actor	33	Male	2014	3	11
Hanna	Domestic	Singer	33	Female	2014	10	1
So, Jin	Domestic	Singer	23	Female	2015	2	25
Kim, Hyunji	Domestic	Singer	30	Female	2015	10	27
Kang, Doori	Domestic	Actor	22	Female	2015	12	15
Tom Nikon	Foreign	Model	22	Male	2010	6	21
Jia Hongsheng	Foreign	Actor	43	Male	2010	7	6
Matsumoto Yuri	Foreign	Actor	42	Female	2010	11	18
Tanaka Minoru	Foreign	Actor	44	Male	2011	4	27
Mindy McCready	Foreign	Singer	37	Female	2013	2	18
Charlotte Dawson	Foreign	Model	48	Female	2014	2	23
Robin Williams	Foreign	Actor	63	Male	2014	8	12
Pung Huimin	Foreign	Actor	40	Female	2015	2	16

Model 1. This model tested whether there were more adolescent suicides during the weeks that follow the news media coverage of the suicide of an adolescent or entertainment celebrity. We included dummy variables for years and months as control variables, and the amount of news media coverage of suicides other than those of adolescents or celebrities.

$$\begin{aligned}
 \#suicides\ 2weeks = & \beta_0 + \beta_1 media_adolescent + \beta_2 media_celebrity \\
 & + \beta_3 media_others + \lambda year_dummies \\
 & + \mu month_dummies + error,
 \end{aligned}
 \tag{1}$$

where *#suicides_2weeks* is the number of adolescent suicides for a particular two-week period.

Previous studies of the copycat effect have identified the two weeks of news media coverage following a suicide as the critical period for copycat suicides (Stack, 1987). We

constructed the dependent variable such that we could compare the number of suicides during the two weeks following a reported adolescent or celebrity suicide with the number of suicides during a two-week period without such news media coverage. We had 105 observations in total—25 for the two weeks following news media coverage of a celebrity suicide; 26 for the two weeks following news media coverage of an adolescent suicide; and 54 for the two week without such media coverage.

The dummy variable *media_adolescent* took the value 1 for the two weeks following the news media coverage of an adolescent's suicide and 0 otherwise; *media_celebrity* was a dummy variable that took the value 1 for the two weeks following the news media coverage of a celebrity's suicide and 0 otherwise. By incorporating these two dummy variables, we were able to compare the number of suicides during the various two-week periods. The variable *media_others* represented the number of news articles about non-adolescent, non-celebrity suicides published during the same time period. In this case, news articles published in the seven days prior to and after the first media coverage of an adolescent or celebrity suicide were counted. By including this variable, we could control for the possible effects of media coverage on suicides other than those of adolescents or celebrities.

Additionally, *year_dummies* is a set of year dummy variables where the year 2010 was used as a base year and *month_dummies* is a set of month dummy variables where January was used as a base month.

Results

Estimation Results of Model 1

Table 3 shows the estimation results of Model 1. For the sake of brevity, the results of the year and month dummy variables have been omitted.

According to the table, the news media coverage of an adolescent suicide was positively associated with the number of adolescent suicides in the weeks following

Table 3
Poisson Estimation Results of Model 1

Variables	<i>B</i>	<i>SE B</i>
Media coverage of adolescent suicide	0.121*	0.061
Media coverage of celebrity suicide	0.112	0.061
Number of articles about other suicides	−0.0008	0.0005
Constant	2.351**	0.132
Wald chi ² (19)	159.2 ($p < 0.001$)	

Note. * $p < 0.05$, ** $p < 0.01$. $N = 105$

the coverage. The coefficient was statistically significant at a 0.05 significance level, indicating that H_1 was supported. The coefficient value ($B = 0.121$) indicates that there are about 1.129 times more suicides among adolescents in the weeks following news media coverage of an adolescent's suicide than when there is no such coverage.

The results also reveal that there were more suicides among adolescents during the two weeks following the news media coverage of a celebrity suicide than during a two-week period with no such media coverage. However, the difference was not statistically significant ($B = 0.112$, $p = 0.065$), indicating that H_2 was not supported.

Table 3 also shows that the effects of the media coverage of non-adolescent, non-celebrity suicides on adolescents' suicides were not significant. The coefficient of the variable was negative (-0.0008) and its p -value was 0.14.

As found by prior studies of copycat suicides (e.g., Stack, 2000), it is likely that domestic and foreign celebrities exert different influences. Thus, we estimated Model 1 only using domestic celebrities (17 cases) and only using foreign celebrities. The estimation results revealed that the coefficient of the "media coverage of suicides of domestic celebrities" variable was statistically significant ($B = 0.124$, $p = 0.02$), whereas that of the "media coverage of suicides of foreign celebrities" variable was not statistically significant ($B = 0.117$, $p = 0.58$).

Discussion

In this section, we discuss the main results reported in the preceding section. First, we have found that more suicides seem to occur among adolescents during the two weeks that follow the news media coverage of an adolescent's suicide. As identification theory suggests, this may be because adolescents experience horizontal identification with the adolescent whose suicide was covered by the media. In particular, those in situations similar to the victim are more likely to copy the suicide. This implies that adolescents form emotional and psychological bonds with the victim in situations similar to themselves. For example, it is plausible that adolescents suffering from the same or similar problems, whether related to school, family, or mental health conditions, will copy that suicide. According to our data, the reported reasons in the news for the 26 adolescent suicides examined in this study, include bullying (9 cases), family issues (3 cases), school performance (3 cases), and mental illness (2 cases). It is possible that adolescents who were having similar problems to those of the victim covered by the media might have identified with the victim.

Further, this finding implies that adolescent suicidal behaviors are likely to be influenced not only by peers or other adolescents in offline settings (e.g., Gould, 2001; Haw et al., 2013; Poijula et al., 2001; Steede & Range, 1989), but also by adolescents whose stories are broadcast by the media. This suggests that there should be more responsible reporting about adolescent suicides to prevent copycat teen suicides. As suggested by prior studies (e.g., Niederkrotenthaler et al., 2010; Sisask & Värnik, 2012), media can exert a positive influence on suicides by delivering messages preventing suicides. Thus,

media firms should also deliver messages that can prevent possible imitation suicides, when reporting adolescent suicides. Further, when reporting such suicides, detailed descriptions about the reasons for the suicide or circumstances the victim was facing should not be reported. This is because adolescents are more likely to mimic the suicidal behavior, if they believe that they are suffering from the same difficult problems or circumstances.

Second, we found that the increase in the suicide rates among adolescents in the weeks following the news media coverage of a celebrity suicide varied according to the nationality of the celebrity, that is, the increase was larger and statistically more significant when the celebrity was a domestic celebrity than a foreigner. This result is similar to the findings of prior studies (e.g., Stack, 2000, 2003). This might be because, as identification theory suggests, Korean adolescents might have formed a stronger identification with a Korean celebrity than with a foreign celebrity.

We also found that the news media reports about non-adolescent and non-celebrity suicides did not have much influence on adolescents' suicides. There can be different reasons for this finding. First, according to the dataset used in this study, the suicide of a non-adolescent or non-celebrity was less covered by the news media than that of an adolescent or celebrity, thus, it is likely that a smaller number of adolescents were exposed to the suicide. Second, the finding implies that the identification process with the victim might play an important role in adolescents' copycat suicides and adolescents more strongly identify with a celebrity or adolescent than other types of individuals.

Lastly, even though we found that positive associations between the news media coverage of either adolescent suicides or celebrity suicides—and the number of suicides among adolescents—in the weeks following the media coverage using regression analyses, the associations do not guarantee the causal effects of such media coverage on adolescents' suicides. This is mainly because it is impossible to control for the effects of all other variables that can influence the suicide rates among adolescents with an observational study like this one.

Limitations

This study does have some limitations. First, we have used data from South Korea, which may not be easily generalized to other countries, especially those in which adolescents have different lifestyles from their counterparts in South Korea. Korean adolescents are known to face a lot of competition in school and to have high levels of stress (Hu, 2015). The competition and stressful circumstances may make Korean adolescents more vulnerable to suicide contagion. According to Yoon (2015), about one-fourth of adolescents' suicides in 2015 were caused mainly by stress from school grades.

Second, for the news media coverage of adolescents' suicides, we only used the news reports appearing on the three major TV networks in South Korea. This means that the news reports by other media outlets such as cable TV or newspapers were

not used in this study. Because it is likely that adolescents are more likely to be exposed to news reports of major TV networks than other types of media outlets, the major TV networks' impacts on adolescents' suicides would be more significant than other types of media outlets. But, in this study, we did not examine how the news reports about adolescents' suicides reported by those other types of media outlets can influence suicide rates among adolescents.

Third, in this study we only examined the effects of the amount of coverage. But prior studies of copycat suicides (e.g., Niederkrotenthaler et al., 2010; Schäfer & Quiring, 2015) also suggest that the quality or content of media reports about suicide also plays an important role in copycat suicides. It is also likely that the ways suicides were reported by the media can also exert an influence on adolescents' suicides. In the future research, this dynamic should be further examined.

Finally, we used aggregate data on suicide rates. As suggested by Baron and Reiss (1985), it is not possible to see what actually caused individuals to commit suicide with this type of research design. Without asking the adolescents who attempted suicide about how the media coverage of suicides of adolescents or celebrities influenced them, it is difficult to know the accurate effects of such media coverage. We used the horizontal identification principle as theoretical background, but, it is not certain whether the adolescents who attempted suicide actually had formed identification with the victim whose suicide was covered by the media. That is, even though an adolescent imitated the suicide, it does not necessarily mean that he or she had identified with the victim. There can be other reasons for the adolescent to mimic the suicide than identification. Further, in this study, we only used a two-week time lag to investigate the impact of media coverage. But it is likely that the effects of media coverage vary with the amount of time lag. Thus, in future studies, effects of different time lags should also be examined.

Conclusion

In this study, we have examined how news media coverage of suicides can influence the suicide rates among adolescents. Our findings indicate that adolescents tend to be influenced by news media coverage of celebrity and adolescent suicides. Suicide is one of the main causes of death among adolescents all over the world. As some of those suicides may be triggered by media coverage of suicides, there should be an effort to reduce such negative effects. This means that media guidelines for reporting suicides should be more strictly followed and monitored by the government. Further, as found by prior studies (e.g., Niederkrotenthaler et al., 2010; Sisask & Värnik, 2012), media messages can exert a positive effect on suicides, which is known as Papageno effects. The findings of this study suggest that there should be more messages delivered by adolescents or celebrities that can prevent adolescents from attempting suicide. The horizontal identification implies

that messages from adolescents who had suicidal ideations in the past, but have overcome the adversity, would be more effective.

Note

1. Naver has a 70% market share in South Korea.

Disclosure statement

No potential conflict of interest was reported by the authors.

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What Motivates Parents to Mediate Children's Use of Smartphones? An Application of the Theory of Planned Behavior

Wonsun Shin and Hye Kyung Kim

Applying the Theory of Planned Behavior (TPB), this study examines parents' attitudes, social norms, self-efficacy, and intentions regarding parental mediation of children's smartphone use. A survey conducted with parents of young smartphone users aged 10–17 shows that parents tend to perceive discussion-based active mediation to be more desirable, as compared to rule-making restrictive mediation. Findings also indicate that the extent to which parents believe that they have control over their parental mediation practices plays an important role in forming positive intentions to practice parental mediation, regardless of the mediation domain.

Today's children are active smartphone users. In the U.S., 73% of children aged 13–17 have access to a smartphone (Pew Research Center, 2015). Children aged 8–12 spend 48 minutes per day on smartphones, and the amount of time spent on smartphones increases to 2 hours and 42 minutes when they reach adolescence (Common Sense Media, 2015). According to Nielsen (2017), the top mobile activities among children aged 6–12 are text messaging (81%) and app downloading (59%), followed by pre-installed game playing (53%), Internet use (53%), and video calling (46%).

Smartphones are personal and portable devices. Children can use smartphones anywhere and at any time, which increases the challenges that parents face when supervising their children's use of smartphones, compared to other types of media. Heavy use of smartphones can expose children to various risks, including accidental or intentional exposure to child-inappropriate content, cyberbullying, and privacy invasion (Stald et al., 2014). For this reasons, some parents are highly concerned about their children's use of smartphones (Ofcom, 2017);

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they discuss smartphone-related issues with their children (Dudley-Nicholson, 2018) or regulate children's smartphone use (Lim, 2016).

Research suggests that children's exposure to media can influence their attitudes and behaviors, but that these media effects can be mediated by the degree to which parents engage in media supervision and regulation (Collier et al., 2016). Prior studies on parental mediation of children's smartphone use have focused heavily on smartphone addiction (e.g., Hwang, Choi, Yum, & Jeong, 2017; Hwang & Jeong, 2015; Lee, Lee, & Lee, 2016). This study focuses on parental mediation of the risks associated with children's smartphone use. Specifically, the study investigates psychological factors that motivate parents to engage in parental mediation of children's smartphone use.

Parental Mediation

Parental mediation refers to a set of strategies that parents employ to control, monitor, and supervise their children's media use (Warren, 2001). This study focuses on two general approaches to studying mediation of children's media use: active mediation and restrictive mediation. *Active mediation* refers to parents discussing appropriate media consumption behavior with their children. *Restrictive mediation* refers to parents setting rules to control or limit children's media usage. Our study does not examine co-use mediation (i.e., parents sharing media with their children) because shared media experience is less likely to take place with personal media like smartphones (Hwang & Jeong, 2015).

Although both active and restrictive mediation can reduce negative media influence on children (Collier et al., 2016), research suggests that not all parents implement the same levels and types of parental mediation (Shin & Li, 2017). Thus, scholars have examined various determinants of different parental mediation strategies (e.g., Hoffner & Buchanan, 2002; Warren, 2003; Youn, 2008). Prior research, however, has predominantly focused on background (e.g., demographic characteristics or family communication patterns) and media-related perception factors (e.g., perceived influence of media on children). Still missing from this stream of research is a careful examination of the role that psychological and motivational factors play, despite their potential utility in designing effective intervention strategies to promote appropriate parental mediation behaviors.

Hwang and Jeong (2015) discovered that parents' smartphone addiction levels, risk perceptions, and several Big Five personality traits (i.e., openness, neuroticism, and agreeableness) predicted parental mediation regarding children's smartphone addiction. Another study conducted by Hwang et al. (2017) found that parents' engagement in smartphone mediation was predicted by their perceptions of the severity of smartphone addiction and efficacy. The present study examines parental mediation of a broader range of risks encompassing safety, content, and privacy, guided by one of the most widely used behavioral prediction models—the Theory of Planned Behavior (TPB).

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), which theorizes an intention to perform a behavior as the most proximal predictor of the actual performance of that behavior. The TPB has been one of the most influential theories for identifying key beliefs underlying behaviors across different contexts. According to TPB, three major psychological factors determine intentions to perform a behavior: attitude toward the behavior, injunctive norms related to the behavior, and self-efficacy (or perceived behavioral control) to perform the behavior (Ajzen, 1991).

Attitude refers to the extent to which an individual has a favorable or unfavorable evaluation of a behavior. When individuals evaluate a behavior positively, they are more likely to intend to engage in the behavior because people prefer to maintain consistency between their beliefs and behaviors (Fishbein & Ajzen, 2011). In this sense, intentions to engage in a parental mediation are likely to increase to the extent a parent has a positive attitude toward the behavior.

Injunctive norms refer to social pressures that an individual perceives from significant referents—or key individuals—regarding the performance of a behavior. This involves perceptions about whether those figures morally approve or disapprove of an individual's behavioral choices. On the other hand, *descriptive norms* refer to perceptions of what is deemed typical or normal among others. Because theorists of TRA/TPB have added descriptive norms to their recent models (Fishbein & Ajzen, 2011), we address both injunctive and descriptive norms in this study and broadly refer to them as *social norms*. As people tend to fear being rejected by their social groups (Prentice & Miller, 1993), supportive social norms are likely to increase parents' intentions to engage in parental mediations. In the context of children's smartphone use, important referents could include a spouse or friends who have children, or even the parent's own child. Children's approval of parental mediation is likely to have a different influence on parents' intentions to engage in mediation, compared to those of a spouse or friends. We thus treat the former (children's approval) and the latter (spouse and friends' approval) separately and compare their roles in predicting intentions to engage in parental mediation.

Self-efficacy refers to perceptions about one's own capability to exercise control over behavioral performance (Bandura, 1997); it has been used interchangeably with perceived behavioral control (PBC) in TPB (Ajzen, 1991). The more control parents perceive themselves to have over parental mediation, the more likely it is that they will intend to engage in parental mediation.

A few studies have examined TPB variables in the context of children's media use and parental mediation. Cingel and Krcmar (2013) found that parents' beliefs about the benefits and injunctive norms regarding their children's media use were positively associated with their decision to expose their children to media. Focusing particularly on parents' attitudes toward active and restrictive mediation, Rasmussen, White, King, Holiday, and Densley (2016) demonstrated that parents

with positive attitudes toward active and restrictive mediation of children's media use in general were more likely to implement active and restrictive mediation of television viewing. In the context of children's social media use, Krcmar and Cingel (2016) showed that parents' attitudes, injunctive norms, and perceived behavioral control regarding the regulation of children's social media use were positively associated with their involvement in active, restrictive, and co-use mediation of their children's social media use.

These prior studies demonstrate the utility of TPB as a theoretical framework for parental mediation research. The application of the TPB model is somewhat limited in those studies, however, especially in terms of the inclusiveness of theoretical constructs and the consistency of behavior targets across measures, both of which are critical to the theory's application (Fishbein & Ajzen, 2011). Specifically, Cingel and Krcmar's (2013) study did not assess parents' attitudes or perceptions regarding their parental mediation *behaviors* in predicting parents' engagement in parental mediation. Rasmussen et al. (2016) did not include perceived norms and self-efficacy as predictors of parental mediation. Krcmar and Cingel (2016) examined parents' attitudes, perceived norms, and self-efficacy regarding restrictive mediation (i.e., controlling children's social media use) to gauge their impact on both active and co-use mediation. Addressing the limitations of their research, Krcmar and Cingel (2016) argued that future research should examine "the entirety of the TPB model as it relates to mediation" (p. 259). Our study aims to address those shortcomings by investigating all of the components of TPB and by keeping the behavior target consistent across measures regarding both active and restrictive mediation.

Studies have shown active mediation to be more effective than other forms of mediation, notably in inducing critical orientations toward media messages and mitigating negative media influences on children (Lee et al., 2016; Youn, 2008). Much less is known, however, regarding parents' attitudes toward, perceptions of, and engagement in different types of parental mediation. One possibility is that parents deem active mediation to be more desirable than restrictive mediation, because the former involves parent-child reciprocal discussions without restricting children's freedom to use media (Shin, 2015).

Similarly, parents may be more likely to believe that their significant referents, particularly their own children, would approve of their engagement in active mediation and that active mediation is more typical than restrictive mediation among other parents. Because children can use their personal devices any time and anywhere without parents' presence, restrictive mediation may be a less viable option for the parents in dealing with their children's smartphone use. If active mediation is considered more desirable, normative, and viable—as compared to restrictive mediation—parents should report more positive attitudes toward, supportive social norms about, and greater self-efficacy in active mediation. This would collectively lead to greater intentions to engage in active mediation (Fishbein & Ajzen, 2011). Thus, we predict that:

H₁: The levels of parental mediation attitude, social norms, self-efficacy, and intention will be greater for active mediation than for restrictive mediation.

The TPB has been tested for its predictive utility in a variety of contexts, from health-related behaviors (Andrews, Silk, & Eneli, 2010) to pro-social behaviors (van der Linden, 2011) and to environmental behaviors (Koger & Winter, 2010), to name a few. In meta-analytic studies, 27% to 39% of the variance in behavioral intentions is explained by attitude, injunctive norms, and self-efficacy (PBC), while descriptive norms account for an additional 5% (Armitage & Conner, 2001; Ravis & Sheeran, 2003).

The relative strength of the TPB components as predictors of behavioral intention is thought to differ by the behavior and the population under investigation (Fishbein & Yzer, 2003). Scholars have thus emphasized the need to understand the nature of the behavior of interest in order to understand the relative importance of psychosocial factors in predicting intentions (Johnston & Dixon, 2008; Kim, Kim, & Niederdeppe, 2015). In a recent study, the relative strength of the TPB components differed across the types of parental mediation (Krcmar & Cingel, 2016). Notably, this study found that American parents' active mediation was determined primarily by self-efficacy in and attitude toward parent control of children's social media use, whereas an injunctive norm about control was the only factor associated with restrictive mediation. Building on this line of work, we attempt to identify psychological factors that motivate engagement in active and restrictive mediation, using measures more compatible with the behavior target. Based on the premise of the TPB (Ajzen, 1991), we expect that positive attitude, supportive social norms, and higher self-efficacy would collectively lead to greater intentions to engage in parental mediation, although the strength of the associations may vary by the type of parental mediation.

H₂: Parents' attitude, social norms, and self-efficacy regarding active and restrictive parental mediation will be positively associated with their intention to engage in each corresponding mediation.

Method

Sample and Procedure

An online survey was conducted with parents of young smartphone users in the United States. The sample of parents was drawn from Qualtrics' online panel of adults identified as parents who were at least 30 years old and resided in the United States. Qualtrics invited selected panelists to participate in our survey via an email invitation that included the URL to the survey questionnaire and instructions. A total of 509 individuals accessed the survey site to participate and answered two screening questions: (1) whether the participant is a parent of at least one child aged 10 to 17, and (2) whether the participant's child uses a smartphone. They were then randomly

asked to think about either their youngest or oldest child—when answering the survey questions—if they had more than one child who used a smartphone and whose age was 10–17. Out of 509 individuals who accessed the survey site, 60% ($N = 304$) were eligible to participate, and 303 participants completed the survey.

The pool of respondents was 69.6% female, 76.2% Caucasian/White, with an average age of 41 ($SD = 8.79$). 42.2% had at least a Bachelor's degree, and the median annual household income fell in the \$50,000–\$74,999 range. Ninety-five percent of respondents reported that their child uses his or her own smartphone, while 5% stated that their child borrows and uses a family member's smartphone. Using the U.S. Census data as a reference (<http://www.census.gov>), the profile of our parent sample is similar to that of the U.S. population in terms of ethnicity (White = 76.9%) and income (median household income = \$55,322), though our respondents had a higher average level of education than the general population (Bachelor's degree or higher = 30.3%). Table 1 presents demographic characteristics of the survey respondents.

Measures

This study examined parental mediation of a broad range of risks, guided by the TPB. We measured six categories of parental mediation practices, focusing on two types of parental mediation (active and restrictive) encompassing three types of risks (safety, content, and privacy). Specifically, three categories addressed active mediation, on safety ("explain to the child how to use a smartphone safely"), on content ("explain to the child why some mobile apps and contents are suitable or unsuitable for his/her age"), and on privacy ("explain to the child how to protect personal information s/he can share or give out on a smartphone"). The other three assessed restrictive mediation regarding safety ("prevent the child from talking to or chatting with strangers on a smartphone"), content ("limit the types of mobile apps that the child can use or websites s/he can visit on a smartphone"), and privacy ("limit the types of personal information that the child can share or give out on a smartphone").

For each type of parental mediation across three types of risks (safety, content, and privacy), five TPB variables were measured, following procedures and question wordings recommended by the theoreticians of TPB (Fishbein & Ajzen, 2011). Intention to engage in parental mediation was measured by asking how likely the respondents were to implement each of the six parental mediation practices (e.g., "In the next few years, how likely is that you will explain to your child why some mobile apps and contents are suitable or unsuitable for his/her age?"), on 5-point scales anchored on *extremely unlikely* (1) to *extremely likely* (5). Attitude was measured by asking how respondents feel about each of the six parental mediation practices (e.g., "How do you feel about explaining to your child why some mobile apps and contents are suitable or unsuitable for his/her age?"), on 5-point scales, anchored on *negative* (1) to *positive* (5).

Table 1
Sample Characteristics (N = 303)

		n	%
Gender	Male	90	29.7
	Female	211	69.6
	Other	2	0.7
Ethnicity	African American/Black	27	8.9
	Asian/Pacific Islander	13	4.3
	Caucasian/White	231	76.2
	Hispanic/Latino	20	6.6
	Native American/American Indian	2	0.7
	Other	10	3.3
Education	Did not complete high school	4	1.3
	High school/GED	67	22.4
	Some college	103	34.0
	Bachelor's degree	94	31.0
	Master's degree	24	7.9
	Advanced graduate work or PhD	10	3.3
	Prefer not to answer	1	0.3
Annual household income	Under \$25,000	31	10.2
	\$25,000–\$49,999	78	25.7
	\$50,000–\$74,999	84	27.7
	\$75,000–\$99,999	56	18.5
	\$100,000–\$124,999	22	7.3
	\$125,000–\$149,000	12	4.0
	\$150,000 and over	12	4.0
	Prefer not to answer	8	2.6

Injunctive norm was measured by asking how three different referent groups (child, spouse/partner, and close friends) would feel about their engagement in each of the six parental mediation practices. The items used 5-point scales, with 1 being *strongly disapprove* and 5 being *strongly approve*. Descriptive norm was measured by asking how often the respondents think “a typical parent of an individual your child’s age” engages in each of the six parental mediation practices. Each item was measured on a 5-point scale, anchored on *never* (1) to *all the time* (5). Finally, self-efficacy was measured by asking how much control the respondents believed they had over each of the six parental mediation practices. The items used 5-point scales with responses ranging from *no control* (1) to *complete control* (5).

Injunctive norms regarding spouses and friends were combined, as they were highly correlated (active, $r = .65$; restrictive, $r = .64$, both $p < .001$) and the results did not differ between the two referents. Further, the results did not change between the combined and separated variables. Table 2 displays the descriptive statistics for the measurements used in this study.

Table 2
Descriptive Statistics of Parental Mediation Behaviors

	Active mediation				Restrictive mediation			
	Composite	Safety	Content	Privacy	Composite	Safety	Content	Privacy
Intention	4.08*** (1.06)	4.05 (1.14)	4.03 (1.17)	4.16 (1.04)	3.91 (1.18)	3.98 (1.21)	3.84 (1.25)	3.92 (1.21)
Attitude	4.52* (0.66)	4.55 (0.69)	4.45 (0.76)	4.55 (0.71)	4.43 (0.80)	4.48 (0.83)	4.36 (0.89)	4.46 (0.86)
Injunctive norm (your child)	4.03*** (0.93)	4.00 (1.00)	3.93 (1.03)	4.15 (0.98)	3.65 (1.12)	3.83 (1.17)	3.47 (1.29)	3.66 (1.19)
Injunctive norm (spouse + friend)	4.48 (0.72)	4.46 (0.73)	4.46 (0.77)	4.52 (0.75)	4.43 (0.75)	4.49 (0.81)	4.40 (0.81)	4.41 (0.79)
Descriptive norm (typical parents)	3.59* (1.12)	3.59 (1.09)	3.51 (1.09)	3.66 (1.10)	3.71 (0.99)	3.80 (1.08)	3.59 (1.04)	3.74 (1.05)
Self-efficacy	4.25*** (0.84)	4.32 (0.85)	4.19 (0.96)	4.25 (0.89)	4.02 (0.96)	3.99 (1.07)	4.05 (1.02)	4.05 (1.02)

Note. All measures are based on a 5-point scale. Cells represent the mean value and standard deviation.

* $p < .05$, *** $p < .001$ for the t-test results comparing between active and restrictive mediation.

Results

Mean Comparison between Types of Parental Mediation

Scholars have emphasized the importance of understanding the nature of similarities and differences amongst behaviors by grouping them into higher-level categories (Johnston & Dixon, 2008). Active versus restrictive parental mediation is likely to be an important category, as they differ critically by the extent to which parents accommodate children's opinions in mediating their smartphone usage. Thus, to examine whether parents have different levels of attitudes, social norms, self-efficacy patterns, and intentions—depending on the type of mediation behaviors, we created composite scores of active and restrictive mediation for TPB constructs. These composite scores ($\alpha > .90$ for all) were generated by averaging three risk items (safety, content, and privacy) for each construct under active and restrictive mediation, after assessing each construct's internal reliability (using a Cronbach's alpha) and ensuring that the measures tapped on the same central concept. We then compared the composite scores of TPB constructs between active and restrictive parental mediation.

A series of paired-samples *t*-tests show that respondents were significantly more intending to engage in active mediation ($M = 4.08$, $SD = 1.06$, $\alpha = .94$) than restrictive mediation ($M = 3.91$, $SD = 1.18$, $\alpha = .96$), $t(302) = 3.88$, $p < .001$. Consistent patterns were found on attitude and self-efficacy, $t(302) = 2.08$, $p = .04$; $t(302) = 4.98$, $p < .001$, respectively: (a) attitude toward active mediation was more positive ($M = 4.52$, $SD = .66$, $\alpha = .90$) than restrictive mediation ($M = 4.43$, $SD = .80$, $\alpha = .92$) and (b) respondents were more confident in performing active mediation ($M = 4.25$, $SD = .84$, $\alpha = .92$) than restrictive mediation ($M = 4.02$, $SD = .96$, $\alpha = .92$).

However, in regards to perceived descriptive norm, parents believed that other parents were significantly more engaged in restrictive mediation ($M = 3.71$, $SD = .99$, $\alpha = .93$) than active mediation ($M = 3.59$, $SD = 1.12$, $\alpha = .93$), $t(302) = -2.47$, $p < .05$. In terms of perceived injunctive norm, parents also perceived that their children were more supportive of active mediation ($M = 4.03$, $SD = .93$, $\alpha = .92$) than restrictive mediation ($M = 3.65$, $SD = 1.12$, $\alpha = .91$), $t(302) = 8.11$, $p < .001$. Perceived injunctive norms of spouses and friends did not differ between the two types of mediation styles.

Taken together, the findings provided partial support for H_1 . As predicted, the levels of attitudes, self-efficacy, and intentions regarding parental mediation of children's smartphone use were greater for active mediation than for restrictive mediation. However, the data revealed mixed results for perceived social norms.

Predictive Utility of TPB by the Type of Parental Mediation

To investigate how the TPB components predict parents' intentions to engage in parental mediation, we used stepwise ordinary least squares (OLS) regressions. At Step

1, we entered demographic factors (parent and child's age, parent education level, and parent ethnicity). At Step 2, we entered TPB constructs, including attitude, injunctive norms (separately by referents), descriptive norms, and self-efficacy. Consistent with the analytic approach of H_1 , we ran separate models with the composite scores of active and restrictive mediation. Table 3 reports these results. To statistically test the relative strength of the TPB predictors, we estimated their corresponding 95% confidence intervals with bias corrected bootstrap (1,000 re-samples). The standardized beta weights would be statistically different from each other ($p < .05$) when the confidence intervals overlap by less than 50% (Cumming, 2009).

At Step 1, parent's age ($\beta_{\text{active}} = -.15, p < .05$; $\beta_{\text{restrictive}} = -.23, p < .001$) and child's age ($\beta_{\text{active}} = -.23, \beta_{\text{restrictive}} = -.26$, both $p < .001$) were significant predictors of both active and restrictive mediations. Demographic factors explained 11% of the variance in active mediation and 17% in restrictive mediation.

Step 2 of the active mediation model explained an additional 31% of the variance in intentions to engage in active mediation. For active mediation, self-efficacy ($\beta = .29, p < .001$) and descriptive norm ($\beta = .11, p < .05$) as well as injunctive norm with reference to one's own child ($\beta = .17, p < .01$) and a spouse and friends ($\beta = .12, p < .05$) were significant predictors of mediation intentions, but their relative strength did not statistically differ. Attitude was not a significant predictor of intentions to actively mediate risks ($\beta = .11, p > .05$). Additional analysis indicates significant interactions between ethnicity and attitudes toward both active and restrictive mediation ($B = .49, p < .05$; $B = -.46, p < .05$, respectively). For active

Table 3
Hierarchical Regressions to Predict Parental Mediation Intentions

	Active mediation	Restrictive mediation
Step 1: Demographic factors		
Parent age	-.15*	-.23***
Parent education	.04	-.02
Parent ethnicity (1 = White; 2 = Others)	-.02	-.02
Child age	-.23***	-.26***
Step 2: TPB factors		
Attitude	.11	.19**
Injunctive norm (your child)	.17**	.09
Injunctive norm (spouse + friend)	.12*	.08
Descriptive norm (typical parents)	.11*	.11*
Self-efficacy	.29***	.36***
Step1 R^2	.11	.17
Step 2 R^2 change	.31	.36

Note. Standardized coefficients.

All Model F and F change significant at $p < .001$ level. * $p < .05$, ** $p < .01$, *** $p < .001$.

mediation, the attitude-intention relationship was stronger among non-White respondents; the opposite pattern was found for restrictive mediation. The lack of the effect of attitude on active mediation intention may be attributed to this ethnic difference as the majority of our respondents were White Americans.

TPB constructs explained 36% of the variance in intentions to engage in restrictive mediation. Self-efficacy ($\beta = .36, p < .001$), attitude ($\beta = .19, p < .01$) and descriptive norm ($\beta = .11, p < .05$) emerged as significant predictors of restrictive mediation intentions. Self-efficacy was a statistically stronger predictor than descriptive norm, but not in comparison to attitude. The upper bound estimate of descriptive norm (.22) was smaller than half of the average of the overlapping CIs added to the self-efficacy's lower bound estimate (.33) ($p < .05$). Injunctive norm was not a significant predictor of intentions in reference to either one's own child ($\beta = .09, p = .052$) or a spouse and friends ($\beta = .08, p = .11$).

Collectively, we found partial support for H₂. Self-efficacy was a significant predictor for both active and restrictive mediation intentions. Self-efficacy was a statistically stronger predictor of restrictive mediation intention than was descriptive norm. Active mediation was not predicted by attitude, and restrictive mediation was not driven by injunctive norms, both of which represent departures from the TPB predictions.

Discussion

This study set out to offer a better understanding of the psychosocial and motivational factors that guide the intention to employ active and restrictive parental mediations to mitigate risks related to children's use of smartphones. We first investigated whether parents' attitudes, social norms, self-efficacy, and intentions differ by the types of mediation behaviors in which they engage. We further investigated the extent to which the TPB components explain parents' intentions to engage in different forms of parental mediation.

Our findings suggest that parents perceive active mediation to be more desirable than restrictive mediation. In keeping with a greater intention to engage in active mediation (vs. restrictive), parents had a more favorable attitude toward active mediation than restrictive mediation. They also tended to believe that they had greater control over active mediation and that their children were more supportive of their engagement in active mediation, compared to restrictive mediation.

According to the theory of psychological reactance (Brehm, 1966), one rejects or moves away from a persuasive message if s/he feels that the message threatens or attempts to reduce personal freedom. Smartphone use is often considered a personal domain and smartphones have become indispensable parts of children's lives. Thus, children may view restrictive mediation—which centers around rules to control children's smartphone use—as a threat to their personal freedom, resulting

in resistance to parent's interventions. Even for less personal media like television, restrictive mediation can cause negative feelings toward parents. For instance, Nathanson (2002) found a negative association between parents' restriction of objectionable content on television and adolescents' favorable attitudes toward their parents. Parents in our sample seem to acknowledge that, believing that their children would be more approving of active mediation than of restrictive mediation. Due to possible conflicts with their children, parents may evaluate active mediation more positively than restrictive mediation.

Interestingly, parents in our study estimated that other parents were more likely to engage in restrictive mediation than active mediation. Considering that parents showed more favorable attitudes toward active mediation than restrictive mediation, the result may imply that parents think that other parents tend to engage in a less desirable form of parental intervention (i.e., restrictive mediation). The observed pattern could be attributable in part to third-person perceptions (Davison, 1983), as parents may believe that smartphone use has a more negative impact on others' children than on their own, thereby implying that other parents require more strict interventions like restrictive mediation. People tend to view both themselves and close others (like their own children) in a more positive light than distant others (Regan, Snyder, & Kassir, 1995). Moreover, prior research has shown that the tendency toward self-enhancement applies to parents' beliefs about negative media influences on their own children compared to the children of others (Hoffner & Buchanan, 2002).

To identify key motivational factors, we also examined the relationships between the TPB components and parents' intentions to engage in active and restrictive mediation. Self-efficacy emerged as a consistent predictor of both domains of parental mediation. In other words, the extent to which parents believe that they have control over their parental mediation practices to reduce smartphone-related risks plays the most important role in forming positive intentions to practice parental mediation, regardless of the mediation domain. This is in keeping with meta-analytic studies that document self-efficacy (or perceived behavioral control) as one of the strongest predictors of intentions, contributing 6% unique variance above and beyond attitude and injunctive norms (Armitage & Conner, 2001), particularly for detection and risk behaviors (Robin, McEachan, Conner, Taylor, & Lawton, 2010).

Our results also demonstrate that attitude is a significant and positive predictor of restrictive mediation intention, but not of active mediation. Setting aside self-efficacy, active mediation intention appears to be more a function of social norms than of attitude. For restrictive mediation, however, the injunctive norms with reference to parents' own children as well as a spouse or friends played no significant role in explaining parents' intention to engage in the same type of mediation; among social norms, only descriptive norm appeared as a significant predictor of restrictive mediation intention.

Active mediation involves parent-child conversations on media-related issues; such reciprocal interactions require a person to consider the other person's perspective.

Therefore, in active mediation, perceived approval or acceptance of the other person, in this case the child (i.e., an injunctive norm), would be more important than one's own evaluation of the behavior (i.e., attitude). On the other hand, restrictive mediation is a parent-oriented, one-way system of rulemaking imposed on children without entailing much deliberate discussion between parents and children. This form of parental intervention is less likely to incorporate the child's perspective, and thus, parents' perception of the behavior itself (i.e., attitude) becomes more important than their perception of how their children would respond to it.

Injunctive norms with reference to a spouse and friends mattered only for active mediation, but not for restrictive mediation. Parents may rely more on important referents' opinions in deciding to engage in conversation-based active mediation than rule-based restrictive mediation because the former requires greater effort to engage in interpersonal communication with children (Shin, 2015). In fact, parents tend to consider setting rules regarding media use more straightforward than engaging in conversation with their children to explain and discuss media-related issues (Shin, 2015). Because it is not an easy task to discuss and develop a consensus regarding the use of smartphones with tech-savvy digital natives, parents may want to seek support and encouragement from their spouse and close friends who are or have been in similar situations.

Descriptive norms were a predictor of both active and restrictive mediation intentions, although weaker than the impact of other significant components. Several scholars have suggested that descriptive norms serve as the most useful heuristic in decision-making when the situation is novel or ambiguous (Cialdini & Trost, 1998; Kim et al., 2015). In uncertain situations, people tend to observe another person's behavior to determine an appropriate and typical behavior for that situation ("social proof," Cialdini & Trost, 1998, p. 156). In this sense, parents may rely on other parents' mediation behaviors, because they are uncertain about what is an appropriate practice in mediating their children's smartphone use. It would thus be beneficial to educate parents about effective mediation practices to minimize the risks associated with children's smartphone use.

Conclusion

This study provides meaningful contributions to the parental mediation and TPB literature. First, the study advances prior research on parental mediation by examining an important but underexplored research area—how and why parents engage in parental mediation concerning children's use of smartphones. Second, we adopted the TPB as a theoretical framework to identify important motivational factors associated with parental mediation, moving beyond prior research that has typically been limited to examining demographic or individual difference factors. More importantly, by examining the entire range of TPB model components and utilizing comparable measures for each of the behavioral domains, this study

responded to the call for future research on parental mediation using TPB as a theoretical framework (Krcmar & Cingel, 2016).

Findings from the study offer important insights for both educators and policy makers. Our findings show that parents' intention to engage in active mediation increases when they believe that their children approve of their mediation (an injunctive norm) and when they perceive greater control over their mediation behaviors (self-efficacy). Research also suggests that parents with greater knowledge of new technologies are more confident about their ability to engage in discussion-based active mediation (Shin, 2015). Thus, in order to encourage parents' involvement in active mediation of children's smartphone use, it may be useful to develop educational materials and guidelines that enhance the quality of parent-child relationships as well as parents' understanding of mobile technologies.

Future research should examine how parents implement various tactics to tackle problems related to children's smartphone use and how those tactics influence children's smartphone usage and exposure to various risks. In addition, future research might explore whether parents have different presumptions regarding different forms of parental mediation, and how such presumptions may influence their attitudes toward their own mediation styles. Parents' self-serving bias or third-person perceptions could also be examined to determine what parents consider to be typical of other parents' mediation behaviors. Further research could also evaluate the impact of parents' knowledge of smartphones and new technology on parental mediation self-efficacy.

This study focused only on how parents try to mitigate the negative aspects of children's smartphone use, without looking at their roles in promoting the positive sides of smartphone use. In addition, current research only examined parental mediation of children's smartphone use motivated by perceptions of risks associated with safety, content, and privacy, leaving unanswered the possibility of mediating smartphone use due to other concerns including the potential of smartphones to displace other experiences and opportunities through the sheer devotion of time. Another limitation of this study is the overrepresentation of mothers, with 69% female participants in the sample. Lastly, some of our measurement items (e.g., explain how to use a smartphone safely) are too generic to capture specific risk domains. In particular, we did not examine what kinds of specific tools and tactics parents utilize to negate different types of risks. Future research might investigate the role of parental mediation in both the positive and negative aspects of smartphone use, and it may examine a wider range of parent perceptions, concerns and barriers, using a gender-balanced sample of parents and more specific measurement items.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Linking to Online Content Becomes Copyright Infringement: Lessons from *Aereo*

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Linking to Online Content Becomes Copyright Infringement: Lessons from *Aereo*

Kimberlianne Podlas

*Although many Internet users presume linking to online content is permissible, copyright owners have long complained that it constitutes copyright infringement. The Supreme Court recently resolved this issue in *ABC v. Aereo*, holding that pursuant to the Copyright Act's "Transmit Clause," an Internet transmission of a copyrighted work is a performance of it. Therefore, inasmuch as transmission occurs by inserting and clicking on a link, the link performs the copyrighted work, and may infringe. This article analyzes linking as a species of copyright infringement, and details which types of links infringe, who faces liability, and what defenses exist.*

Every day Internet users click and insert links to online content, but few of them contemplate the legal implications of their actions. Indeed, links are so ubiquitous that most people presume linking is permissible, especially when in the context of information-sharing or non-commercial activity (Healey, 2014). Notwithstanding, owners of the content and Web sites have long claimed that such content linking could violate their rights. They complain that linking allows viewers to bypass paywalls (*Flava Works, v. myvidster*, 2012; *Kelly v. Arriba Soft Corp.*, 2003), enables competitors to misappropriate their work (Gardner, 2010; Sanchez, 2009), and impedes their ability to monetize digital platforms (Park, 2010). Content creators and studios further assert that when these links enable illegal uploading of films and television programs, the links are used as a tool for infringement and can encourage others to infringe as well (Cullins, 2017; Kravets, 2016; Lee, 2012). Although all of these complaints are premised on the notion that linking to copyrighted content somehow infringes on it, until recently, this issue was unresolved. Further complicating the matter was the question of who would be liable: those who insert or share links, those who click links, the intermediaries that enable the transmission, or the original uploader of the content (Goldman, 2014). In fact, a majority of linking lawsuits were dismissed, because they failed to identify a sound theory of copyright infringement or proffer a cognizable theory of liability (Podlas, 2014).

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Finally, in *ABC v. Aereo* (2014), the Supreme Court clarified that pursuant to the Copyright Act's "Transmit Clause" an Internet transmission of a copyrighted work constitutes a performance of it. Therefore, inasmuch as a transmission occurs by inserting and clicking a link, the link performs the copyrighted work, and may infringe. At the time, however, this aspect of the decision went largely unnoticed. Instead, the immediate aftermath of *Aereo* focused on the dissolution of Internet television services and prognostication about the future of cloud storage.

In retrospect, this was unfortunate, but not surprising. *Aereo* had portrayed itself as the latest iteration of streaming television, and sought to reframe the copyright infringement lawsuit as a battle between technological (Internet) innovation and the existential threat to it that a finding of infringement posed (Brief for Respondent, *ABC v. Aereo*, 2014). Although this narrative dominated media coverage and popular understandings of the case, it was inconsistent with the facts and ignored the Court's pronouncement that *Aereo* was not about (and was unlikely to threaten) "the cloud." Indeed, *Aereo* was not like the typical streaming service that licensed content or an equipment provider that was uninvolved in the procurement of content, but an intentional actor that located, copied, saved, and transmitted copyrighted programming to subscribers.

Today, cloud computing and streaming are more popular than ever, and copyright owners—including Warner Bros., 20th Century Fox, FOX Television, Lionsgate, Universal, Disney, and Paramount Studios—that have sued linkers for infringing on their public performance rights have prevailed (Cullins 2017; Kravets 2016; *Fox Television v. FilmOn X*, 2015; *Fox Television Stations v. BarryDriller Content Systems*, 2015). It thus appears that *ABC v. Aereo*'s greatest impact has been to clarify that linking to and online transmissions of copyrighted works are within the purview of the Copyright Act, and, therefore, can infringe. Accordingly, it is important for both copyright owners and linkers to recognize linking as a peculiar species of copyright infringement, and understand which types of links, under what circumstances, may infringe, who faces liability for linking or clicking such links, and what defenses to infringement exist.

Overview of Copyright

Understanding how linking to copyrighted works infringes, and why most previous claims of infringement-by-linking failed, requires delineating the rights a copyright owner possesses, and analyzing what a link does in relation to a copyrighted work.

The Copyright Act of 1976 protects "original works of authorship fixed in a tangible medium of expression," including literary works, newspaper articles, musical compositions, scripts, dramatic works, movies, television episodes, and other audiovisual works (17 U.S.C. §101). It does not give the work's creator complete control over its use and exploitation, but rather grants five exclusive rights in relation to the work: (1) to make reproductions or copies of it; (2) to prepare derivative works based on it; (3) to distribute copies to the public by sale, other transfer of ownership, licensing, or rental; and "in the

case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works,” (4) to perform it publicly; and (5) to display it publicly (§106).

Usurping any of these rights is *prima facie* copyright infringement. Nonetheless, because a copyright author possesses *only* these rights, using a copyrighted work in some other way does not infringe. This is true even if the use reduces the work’s inherent value or free-rides on its sweat equity. Indeed, many pre-Aereo linking lawsuits were unsuccessful, because they did little more than complain that copyrighted content was used without consent or misconstrued what a link did, and so failed to accurately identify the right infringed. These rights and their application to the digital realm are detailed below.

The Reproduction Right

A reproduction is a material object in which a work is fixed in a sufficiently permanent form (*Capital Records v. Redigi*, 2013). Digitizing a book (*Authors Guild v. HathiTrust*, 2014), copying digital music files (*A&M Records, v. Napster*, 2001; *London-Sire Records v. John Doe 1*, 2008), downloading software (*MAI Systems v. Peak Computer*, 1993) or content to a hard drive (*United States v. American Soc’y of Composers*, 2010), or uploading content to a Web site (*Perfect 10 v. Amazon.com*, 2007; *Society of the Holy Transfiguration Monastery v. Archbishop Denver*, 2012) all make another permanent copy of the work, so are all reproductions. By contrast, a “purely evanescent or transient reproduction” that disappears when a device is turned off, such as an image on a screen or captured momentarily in a computer’s memory, do not constitute reproductions (*Lewis Galoob Toys v. Nintendo of America*, 964 F.2d 965, 1992; *Micro Star v. Formgen*, 1998). Consequently, individuals who watch, listen to, or stream copyrighted works do not infringe on the reproduction right (*Matthew Bender & Co. v. West Publishing*, 1998; *United States v. American Society of Composers*, 2010).

The Distribution Right

A “distribution” requires a copy of a work to change hands or to literally be distributed to the public by sale, transfer of ownership, rental, lending, or licensing (§106(3); *FOX Broadcasting v. Dish Network*, 2014). In the online context, sending a digital file, streaming a movie to a viewer, or emailing software are distributions (*Kernal Records Oy v. Mosely*, 2012). Merely offering something for sale or distribution, however, is not (*Atlantic Recording Corp. v. Howell*, 2008; *Nimmer & Nimmer*, 2016).

For instance, FOX claimed that Dish satellite’s Autohop infringed on FOX’s distribution rights. Autohop was a remote control feature that allowed viewers to push a button to skip commercials in programs they DVR’ed. Autohop, however,

was not as automatic as its name suggested; instead, Dish recorded programs when they aired, inserted code marking advertisements, and then used these coded recordings for Autohop. (This was why Autohop was not available until hours after a program aired). FOX asserted, among other things, that by adding code to the copied programs, Dish was distributing them. The court rejected this argument, explaining that the copies Dish made had not changed hands, so were not distributed (*FOX v. Dish*, 2014).

The Derivative Works Right

A “derivative work” is a variant or alternative version of a work. The statute illustrates the concept by listing foreign-language translations, annotations, musical arrangements, motion picture versions, and abridgments as “derivative works” (§106(2)). Whereas a screenplay based on a novel, a movie dubbed into a foreign language, or a television series adapted from a comic are derivative works, a work merely inspired by or with similar themes and subject matter of an existing work is not.

The Public Performance and Public Display Rights

The public performance and public display rights, discussed by the statute and here in conjunction, apply to only certain types of works, including musical, dramatic, literary (word-based), and audiovisual works (§101). Whereas other rights are articulated wholly in their respective subparagraphs, the public performance/display rights are further defined in the Transmit Clause. In addition to their common meanings, the Transmit Clause defines “display”/“perform” to include the transmission of “a performance or display of [a copyrighted] work ... by means of any device or process” (§101(2); *ABC v. Aereo*, 2014). Therefore, transmitting or streaming a performance to a viewer is a performance, as is *viewing* the transmission of the performance.

Congress added the Transmit Clause to the 1976 Copyright Act to ensure that the display/performance rights covered existing and future technologies in broadcasting and electronic media. Prior to this, the Supreme Court had held that third-party (cable) retransmissions of programming did not meet the 1909 Act’s definition of a “performance,” and thus did not infringe (*Fortnightly v. United Artists Television*, 1968; *Teleprompter Corp. v. CBS*, 1974). Congress enacted the Transmit Clause to overturn these holdings and broaden the definition of perform/display to bring such activities within the reach of the Act (H.R. Report No. 94–1476, 1976; Senate Report No. 94–473, 1975).

The Transmit Clause was central to *ABC v. Aereo*, in which the Supreme Court held that streaming¹ (or transmitting) a television program to a viewer was a performance. Until this case, litigants had largely ignored the Transmit Clause. Aereo was part-streaming-service, part-remote-storage DVR that enabled subscribers to stream

television programs over the Internet. To viewers, Aereo was like any other steaming service or “TV Anywhere” app: connect to Wi-Fi, select a program, click, and watch.

Behind the scenes, however, Aereo was different in critical ways. First, unlike services such as Netflix and cable “TV anywhere” that contract for or statutorily license programming, Aereo did not pay for the content it captured, translated, copied, and transmitted to subscribers. Second, to get around this, Aereo employed a technological process that one judge called “a Rube Goldberg-like contrivance, over-engineered in an attempt to avoid the reach of the Copyright Act” (*WNET v. Aereo*, 2013, p. 697). When a subscriber selected a program and clicked “Watch,” a signal was sent to Aereo’s server room, a warehouse of thousands of dime-sized antennas. Aereo’s server tuned an antenna to the program’s broadcast frequency, captured the signal, converted it into Internet-streamable data, sent that to another server, and saved a copy in a subscriber-specific folder on Aereo’s central hard drive. This copy was then transmitted to the subscriber.²

Aereo argued that it was not performing nor transmitting content, but was merely providing equipment or service, and if anyone was infringing, it was the subscriber who clicked the program link that instigated the transmission of content. The Supreme Court rejected this argument. It held that by using this technological process to deliver a television program, Aereo was transmitting, hence, “performing” it. As to Aereo’s assertion that it was the final step—the viewer’s click—that caused the transmission, so it was the *viewer* (not Aereo) who transmitted, the Court explained that transmissions often involve a process or set of actions. Consequently, neither the transmission, nor liability for it, is restricted to the last act. Here, when Aereo streamed a program, its system communicated it through a process that made it “visible and audible on the subscriber’s computer (or internet-connected device).” Thus, regardless of “the number of discrete communications ma[d]e,” Aereo, itself, transmitted and “performed” the program (*Aereo*, pp. 2504, 2508–09).

The Court further noted that Aereo’s operations were substantially similar to those the Transmit Clause intended to reach. Although Aereo (and the dissent) attempted to distinguish its capture-transmit process, because it remained inert until a subscriber clicked, the Court deemed this minor technological difference “invisible to subscriber and broadcaster alike” and insufficient to remove Aereo from the scope of the Act, let alone transform it into a non-volitional equipment provider (p. 2507). In fact, it likened an Aereo subscriber’s “click on a website” to a CATV viewer’s choosing a program by turning a dial on a television.

More recently, courts have applied Aereo’s reading of the Transmit Clause to hold that Web sites and commercial services that link to, stream, or distribute links to movies and television shows infringe on the public performance right (Cullins, 2017; Kravets, 2016). Courts have also found that content-delivery services modeled after Aereo, including those that use separate capture and transmission streams, transmit and infringe on the Public Performance right (*FOX Television Stations v. BarryDriller Systems*, 2015; *FOX Television Stations v. FilmOn X*, 2015).

The performance/display rights apply only to public performances/displays, not private or non-public ones. A performance/display is *public* if it is at a place where “a substantial number of people, outside of a normal circle of a family and social acquaintances is gathered” (*Aereo*, pp. 2509–2510) or is made available to the public at large (§101(2)); (Giblin & Ginsburg, 2015; Nimmer & Nimmer, 2016). The people comprising “the public” need not be together, watch the performance/display simultaneously, or on the same device. Indeed, *Aereo* held that transmitting the same performance to multiple people is a public performance, not multiple private performances. Accordingly, *Aereo*’s contrivance of viewer-specific copies and individualized transmissions of identical content did not render the transmissions private: whether *Aereo* transmitted a single work at once or copies at different times, it transmitted a performance to all. Thus, hotel on-demand movies (*Columbia Pictures v. Redd Horne*, 1984), streaming programming (*WPIX v. ivi*, 2012), and movies attended by one patron (H.R. 94–1476) are “public performances,” whereas a phone ringtone or bathier signing in the shower is not (*In re Cellco Partnership*, 2009).

Links Transmit

Understanding how linking to a copyrighted work transmits and performs it requires understanding what a link is. Historically, courts and litigants tried to analogize links to the analog world, describing them as signs on the information superhighway that instantaneously transported travelers to online destinations, or mechanisms that enabled people to see content wherever they were located (Podlas, 2014). Unfortunately, because this misconstrued how links operate in relation to content, they caused links mistakenly to be deemed distributions (*Ticketmaster*, 2000; *Universal v. Corley*, 2001), reproductions, or literal displays (Podlas; *Playboy v. Webworld*, 1997). *Aereo* has corrected these mistakes.³

A link is a designated word, phrase, or image that, when clicked, displays linked-to digital content, an electronic document, or a Web site. Links are common in search engine results and reference lists, but also can be embedded in graphics or “buttons” that users click to indicate responses or select items.

Although vernacular describes clicking a link as “going to” a Web site or linking as sending users to content, the reality is the opposite: A link does not take or transport “clickers” anywhere. Instead, it activates a technological process that transmits content to the viewer’s Internet-connected device. A link is the Internet’s request-response communication protocol by which Web browsers and servers communicate and transmit information. Linking to a document or Web page inserts a code containing the URL of the linked-to document. When a user clicks the link, their Web browser automatically requests from the server hosting linked-to content to transmit it to the “clicker” (*Flava Works v. myvidster.com*, 2012; *Universal City Studios v. Corley*, 273 F.3d 429, 2001).

By definition, operation, and confirmed by *Aereo*, a link is a transmission or communications process by which content is transmitted and performed/displayed. Therefore, under the Transmit Clause, if a link transmits a §101(4) or (5) work, such as a television episode, YouTube video of *Hamilton*, or leaked movie, it performs/displays the work. This is true even though the content is not received until the viewer clicks to complete the process. The Digital Millennium Copyright Act also acknowledges that links transmit (and may infringe by linking users to infringing material, 17 U.S.C. §512(d)). Additionally, the Transmit Clause provides that a viewer of a transmitted performance is also performing. Therefore, a clicker-viewer of a linked-to §101(4) or (5) work also performs. Whether they are doing so publicly is a different issue, discussed below.

Public versus Private Transmissions

Whether a transmission, hence performance, is public depends on the number of people who view or can access it. A link available to the public-at-large or sent beyond one's close friends and family would be a public transmission. When Netflix or a pirate site streams *Stranger Things* or *Get Out* to viewers, they are transmitting to the public, so are publicly performing. The European Union Court of Justice has similarly held that a work is "made available to the public" (per WIPO Treaty, Art. 8, and EU Information Society Directive) if the public can access it online (*Svensson v. Sverigen*, 2014). By contrast, a link sent to a few people or accessible only to a handful of internal users (e.g., film festival jurors, enrolled students) would not be a public performance.

A clicker-viewer of a link also performs, but typically does so privately. For example, a clicker-viewer watching YouTube videos on a personal device, viewing Hulu at home with friends, or streaming *Preacher* on their phone at the gym is privately performing. This does not implicate the performance right. If the clicker shows the linked-to content on big-screen TVs at a bar or projects it to people in an auditorium, the performance becomes public.

Liability for Infringement

Volitional Action

That a link publicly performs/displays a copyrighted work does not resolve liability for infringement by linking. Although copyright infringement does not require an intent to infringe, it does require volitional conduct. Volitional conduct is a purposeful act with a close nexus to, or that is a but-for cause of, the infringing act (*Cartoon Network v. Cablevision*, 2008; *Parker v. Google*, 2007). To illustrate, a person who digitizes a book, uploads a movie, or downloads software purposely and directly acts on

a copyrighted work, and so engages in volitional conduct. By contrast, creating software or equipment that responds automatically to user commands, unaided by further human intervention, such as DVRs, search engines, and automatic cloud storage is not a volitional act (*Cablevision*, 2008; *Disney v. Hotfile*, 2010; *Giblin & Ginsburg*, 2015; *Religious Technology Center v. Netcom*, 1995). The volitional act is particularly relevant in multi-party infringement, as it demarcates direct infringement from secondary infringement.

Direct Infringement

An infringer who personally commits the volitional act or acts directly on a copyrighted work is a direct infringer (*MGM Studios v. Grokster*, 2005; *Viacom v. YouTube*, 2012): Someone who uploads a movie or copies music files is a direct infringer; Someone who merely provides the means or manufactures equipment that others use to commit infringement is not (e.g., *Grokster*). Consequently, ISPs, software creators, and manufacturers of equipment are not direct infringers, although the people who use them to infringe are (*Sony Corp. of America v. Universal City Studios*, 1984). Generally, when multiple parties are involved in infringement, the direct infringer is the one who actually copied, transmitted, or performed the copyrighted work.

Indeed, in finding Aereo directly liable, the Court noted that regardless of what viewer-subscribers did, Aereo was not a passive product supplier that others used to infringe. Rather, it provided a commercial service that located, translated, copied, and retransmitted copyrighted works, acting directly on them.

Secondary Infringement

One who did not personally commit the volitional act may, nonetheless, be secondarily liable for the infringements of others. Secondary infringement is not a lesser form of or “second degree” infringement meant to redress “neighboring” harms or moral rights. Instead, under delineated circumstances, it imposes liability for the active role played in or financial benefit obtained from a third party’s infringement. Secondary infringement is premised on an act of direct infringement; therefore, if there is no direct infringement, there is no secondary infringement (*MGM Studios v. Grokster*, 2005). Secondary liability is also founded on a volitional act, albeit that of the third-party, direct infringer: if there is no volitional act, there is no direct liability; if there is no direct liability, there is no secondary liability (*FOX v. Dish*, 2014).

The Supreme Court has identified two forms of secondary infringement, contributory and vicarious infringement. Contributory infringement occurs when the defendant: (1) knew or should have known its product or service could be or was being

used to infringe, and (2) materially contributed to, actively facilitated, or affirmatively induced third parties to infringe. For example, Grokster was contributorily liable for direct infringers, because it not only created and distributed the peer-to-peer file-sharing software and services that infringers used to copy and distribute copyrighted works, but also intentionally and affirmatively encouraged these infringing uses (*MGM Studios v. Grokster*, 2005; *A&M Records v. Napster*, 2001). Recently, the owner-operator of a BitTorrent site was held contributorily liable for people who used the site to share and download movies. The court explained that the owner-operator knew of the infringement, created the site for that purpose, and personally aided infringements by answering questions, locating torrent files, and troubleshooting upload and playback problems (*Columbia Pictures v. Fung*, 2013).

Importantly, contributory liability demands more than providing the means to infringe: It requires concrete evidence that the contributory infringer affirmatively induced or actively helped the direct infringers infringe. To illustrate, Sony was not contributorily liable for the infringements of VCR users, because there was no evidence Sony sold its VCRs knowing consumers would use them to infringe and had actively encouraged, contributed to, or induced infringing uses. Moreover, because most viewers used VCRs for non-infringing Fair Uses, there was no direct infringement on which to base secondary infringement (*Sony v. Universal*, 1984).

Another form of secondary infringement, vicarious infringement, occurs when the defendant: (1) possesses legal or practical authority over the direct infringer and (2) “directly profits from the direct infringement while declining to exercise a right to stop or limit it” (*MGM Studios v. Grokster*, p. 930). The vicarious infringer’s profit or economic interest in the infringement must be both cognizable and clearly causally related to the direct infringement (*Ellison v. Robertson*, 2002; *Range Road Music v. East Coast Foods*, 2012). For example, a restaurant or bar owner is vicariously liable for DJs and musicians performing copyrighted music on premises, because the owner has control over the infringers (and can instruct them to stop) and, inasmuch as the infringing music attracts patrons, a financial interest in it (*Broadcast Music v. Meadowlake*, 2014; *Warner Bros. v. Lobster Pot*, 1984). That a third party somehow benefits from infringement, such as by hearing music or watching a movie free, however, does not suffice for vicarious liability.

While secondary infringement expands the circle of who may be liable for infringement, it does not enlarge the scope of a copyright owner’s rights beyond those already articulated in the statute. Thus, copyright owners who have argued that linking is a form of secondary liability, because it contributes to the harm of some other infringement, rather than the commission of it—or benefits clickers of the link (rather than the pocketbook of the linker)—misstate secondary liability and have failed. For example, Quentin Tarantino sued Gawker for linking to his leaked *The Hateful Eight* screenplay, in conjunction with its article (entitled, “Here Is the Leaked Quentin Tarantino *Hateful Eight* Script”) reporting the leak (Tarantino Complaint, 2014). Although Tarantino claimed that Gawker was contributing to, facilitating, and encouraging copyright infringement, he did not plead direct infringement by a third party or that Gawker

had caused, induced, or materially contributed to it. As a result, the court dismissed the lawsuit: It explained that secondary infringement is premised on direct infringement, and while Tarantino presumed infringement occurred, he had not identified any third-party infringer, which rights were infringed, or how Gawker had caused, induced, or materially contributed to that infringement. Furthermore, because reading a work does not infringe on the reproduction or distribution rights, secondary infringement could not be founded on people reading the leaked screenplay (Belton, 2014; Order, 2014).

Volitional Linking

Applied to infringement by linking, links created through volitional action may directly infringe, but automatically-generated or distributed links, i.e., “non-volitional links,” do not.⁴

Linking

A linker who decides to link to (hence, transmit) a §101(4) or (5) work, must identify the content, copy the URL, and choose where to insert the link, and/or to whom to send it. These volitional acts on the copyrighted work have a clear nexus to the transmission effected by the link. If that “volitional link” is made publicly available or sent to several people, it is *prima facie* direct infringement. Accordingly, “volitional links” to television episodes, screenplays, or YouTube videos, whether by fans or commercial entities, may infringe (Podlas, 2014).

By contrast, a link produced by an algorithm or generated automatically in response to user request—such as those generated by search engines or similar information services programmed to locate, compile, and catalogue content—is not the result of volitional action. Such non-volitional links to copyrighted works do not infringe. This distinction between knowingly, volitionally created, and automatically generated, non-volitional links is also recognized by the DMCA, which permits liability to be premised on the former, but not the latter. Specifically, §512 exempts certain entities from liability for automatically generated links to infringing material.⁵ Additionally, because non-volitional linking produces no direct liability, there can be no secondary liability for clickers using non-volitional links.

Furthermore, several courts have reasoned that search engines and similar information-location services download and generate links automatically in response to user requests, the volitional conduct required for direct liability is lacking (*Flava Works v. myvidster*, 2012; *Viacom v. YouTube*, 2012). Thus, assuming *arguendo* that linking infringes (irrespective of the right infringed), these non-volitional links did not (*Field v. Google*, 2006; *YouTube*).

Volitional action, or rather the lack thereof, is also salient to understanding why typical cloud storage services are not impacted by *Aereo* and would not be liable for transmitting-performing copyrighted works. Despite noting that “questions

involving cloud computing [and] DVRs" were not before it, the *Aereo* Court nonetheless distinguished services "where a user pays principally to receive transmissions of copyrighted works" (like those provided by *Aereo*) from those "when the user of a service *pays primarily for something other than the transmission of copyrighted works*, such as the remote storage of content": The former presumptively infringe; the latter do not (*Aereo*, p. 2511).

As Giblin and Ginsburg explain, "Authors who believe Drop-box would infringe if a user utilized the service to store an illegal download miss [that] *Aereo*, pointed out that simple storage is not volitional enough to satisfy *Aereo* analysis, and *Aereo*'s acts were not merely passive" (Corser, 2015, pp. 22–23; Giblin & Ginsburg, 2015). Cloud storage and virtual-locker services such as Drop-box, Google Drive, and iTunes iCloud do not independently locate or act on content. Instead, they are non-volitional and "copyright blind," automatically saving whatever a user transfers, be it a user's files shuttled between devices, legally purchased content, or illegally obtained content. Consequently, even if stored content is impermissibly obtained, the service did not engage in volitional conduct of obtaining and transmitting it; the user did (Giblin & Ginsburg; Spangler, 2014). (Additionally, digital storage services likely fall within the DMCA safe harbor; *Wolk v. Kodak Imaging Network*, 2011; *YouTube*, 2012). Moreover, a transmission of content back and forth to a user is not a transmission to the public at large, so would not be a public performance (Giblin & Ginsburg).

Clicking

As explained, viewing a transmission of a performance of a §101(4) or (5) work also constitutes a performance. Accordingly, an individual who clicks links to and views transmissions of performances also performs/displays that work. A clicker viewing on their own device, however, is not rendering that performance public, and so does not infringe. In turn, because there is no direct infringement, the linker cannot be secondarily liable.

If the clicker retransmits or makes the transmission public—such as by forwarding the link to several others, posting it on a public site, or projecting it in a theatre—the clicker commits its own volitional act for which the clicker-retransmitter may be directly liable (*NFL v. Primetime* 24, 2000). Unless facts show otherwise, that discreet act of infringement is not caused, controlled, or known by the original linker, and would not directly inure to its financial benefit. Consequently, the original linker would not (also) be secondarily liable.

Moreover, even if the linker actively encouraged clicker infringements—such as by imploring clickers to forward it—a link is not a product, service, file-sharing site, software, or device. As such, a link is a part of the Internet's operation and cannot be used to commit infringement—ala *Grokster* or *Sony* (let alone one invented by the linker)—for which contributory liability can be assigned. By the same token, because of the nature of links and Web communications, the linker has no control over a clicker's subsequent uses of the link, and no technological ability to prevent

clickers from sharing links.⁶ Therefore, in a typical linking scenario, a linker would not be secondarily liable for subsequent infringements by clickers. By contrast, a BitTorrent site (and its software) that uses links as part of a service designed for mass file-sharing (by sharing multiple small portions of files and recompiling them into wholes), is the type of a service or means of infringement contemplated by *Grokster*. A Torrent site also often directly financially benefits from third-party infringements, relies on them, and can stop them, so can be labeled a vicarious infringer (*Columbia Pictures v. Fung*, 2013).

Fair Use

The rights granted by the Copyright Act are not absolute, but are limited by the doctrine of Fair Use. Pursuant to 17 U.S.C. §107, Fair Use of a copyrighted work is not infringement. Indeed, *Aereo* noted that Fair Use is important in preventing inappropriate or inequitable applications of the transmit Clause to the Internet. There is no bright line rule as to which uses constitute Fair Use and which do not. Instead, Fair Use is a factually driven inquiry, determined on a case-by-case basis, that weighs four factors: (1) the purpose and character of the use (such as whether it is for profit, education, news reporting, criticism, plagiarism, to avoid payment); (2) the nature of the copyrighted work (ranging from more factual to more creative); (3) the amount and substantiality (or importance) of the copyrighted work used; and (4) the effect of the use on the potential market for or value of the copyrighted work. Although, in the context of a particular case, one factor may carry significant weight, no one factor alone is ever dispositive.

Because Fair Use is case-specific and holistic, and the character of links and linkers vary widely, there is no bright-line rule for when an otherwise-infringing link is Fair Use. Nonetheless, general principles for evaluating Fair Use in linking can be extrapolated from the statutory factors. Linking to excerpts or limited, relevant portions of works (§107[3]), for purposes of news reporting, corroboration, sourcing and citation, scholarship, or critique (§107[1])—that do not supplant the market for the original work—(§107[4]) will favor Fair Use (*Harper & Row*, 1985; *L.A. News Serv. v. KCAL-TV Channel 9*, 2001; *L.A. News Service v. Reuters Television*, 1998). Therefore, a journalist's linking to twelve seconds of a *Late Show* monologue in reporting that viewers complained about it, or a John Oliver segment that a coal magnate has claimed is defamatory, or a professor's linking to a film clip to illustrate camera angles are likely Fair Use. In each instance, the use is for a favored purpose, the portion is not excessive, clearly relates to the use, and would not supplant the original work. By contrast, using an entire work (§107(3)) strongly militates against fair use (*Campbell v. Acuff-Rose Music*, 1994), and also damages the market for the original (§107(4)), negatively impacting sales, rentals, and licensing fees that can be negotiated (*FOX v. Dish*, 2014; *Lions Gate*, 2014). Therefore, linking to entire movies, television episodes, or literary publications—whether for profit or personal entertainment—are usually not Fair Use (*Harper & Row*, 1985; *Napster*, 2001). This

is more so when the link is unaccompanied by commentary, exposition, or evident transformative purpose.

Also favoring Fair Use is linking to free, publicly disseminated works, as linking typically does not adversely impact the economics of the situation (§107[4]), and linking to content the creator clearly intended for the public domain or broad public consumption, such as campaign videos, product advertisements, and materials on open source Web sites. Indeed, linking furthers the creator's intent and relies on implicit consent to do so. (That content can be accessed by the public online should not be confused with it being in the "public domain," viz. copyright). For example, Ticketmaster.com sued Tickets.com for linking to its concert listings page. Nonetheless, since the content was factual, free, and publicly available, the court held that it was not a copyrighted work, and, in any event, accurately conveyed Ticketmaster.com as the purveyor of services (*Ticketmaster v. Tickets.com*, 2000).

Similarly, because facts are not copyrightable, linking to content that is primarily informational or factual-historical (§107(2))—including academic journal articles (available to library users), consumer product reviews, portions of news reports, and sports scores—favor Fair Use (*Bourne v. Walt Disney Company*, 1995; *Int'l News Serv. v. Associated Press*, 1918).

In fact, several courts have held that links provided by search engines and similar informational services are non-infringing Fair Uses: Because the links designated source Websites (*Kelly v. Arriba*, 2003), functioned as directories helping users efficiently locate source information, served a historical function (*YouTube*, 2012), did not substitute for the original, and had little impact on the market for original works (*Field v. Google*, 2006; *Perfect 10 v. Amazon.com*, 2007; *Perfect 10 v. Cybernet Ventures*, 2002; *Perfect 10 v. Visa*, 2007), in context, the links to copyrighted works constituted fair use. Of course, under other circumstances, combined with other factors, the conclusion may be different. For example, a news aggregator site whose business plan is built on linking to the work of other journalists (to avoid paying for original content), a Web site that links to pay sites and distributes links so that viewers can avoid pay walls, BitTorrent sites, or a leaker distributing links to television shows yet to air possess different characters, motivations, and ramifications, so may, on balance, not be Fair Use.

Conclusion

Before *Aereo*, most infringement-by-linking lawsuits were unsuccessful. Nevertheless, courts never declared that any sort of linking, for any purpose, to any content was legal, but only that the rights asserted and actions complained of did not constitute infringement. For the most part, it was not until *Aereo* that copyright owners began arguing that Internet transmissions of copyrighted works fell within the Transmit Clause, and thus infringed on the public performance right.

Consistent with this, since *Aereo*, copyright owners who have sued linkers as direct infringers of the public performance right have prevailed. In February 2017,

Warner Bros, 20th Century Fox, Columbia Pictures, Universal, Disney, Paramount, and Viacom Studios sued a ring of interconnected piracy Web sites for direct and secondary copyright infringement, because the sites offered streaming and downloading of first-run movies and television shows. A federal district court agreed and enjoined the Web sites from linking to or distributing links to the works (Cullins, 2017). In Summer 2014, Lions Gate obtained a restraining order prohibiting sites from linking to its leaked films (Gardner, 2014), and in Fall 2016, Warner Bros. won an infringement action against a talent agency that uploaded films to a GoogleDocs folder and distributed links to third parties (Kravets, 2016). Courts have also found that streaming services modeled after Aereo—or using individualized transmission streams publicly—perform and infringe (*Fox Television Stations v. BarryDriller Systems*, 2015; *Fox Television Stations v. FilmOn X*, 2015). These are founded on the link being the mechanism by which infringement occurred, and, thus, indicate that infringement-by-linking is a cognizable claim.

Although Internet transmissions of and links to certain copyrighted works are performances/displays within the purview of the Copyright Act, this does not mean that all, or even most, linking infringes. Many links do not result from volitional action, but are automatically generated. Other link-transmissions are privately viewed (at home or on one's personal device)—or not publicly available—so are not “public” performances. And some links are to Web sites, non-copyrightable facts, or something other than §101(4) or (5) works, so the public performance/display rights do not apply. Moreover, even link-transmissions constituting public performances of a qualifying works can often be justified as non-infringing Fair Use.

Linking and sharing links to copyrighted content have become normalized, and many Internet users consider these actions to be inconsequential, if they consider them at all. In the post-Aereo landscape, however, it is critical to understand that volitional linking to certain types of copyrighted works is a transmission of the work, and, thus a performance of it. Consequently, if such links are made “public” or distributed to the public, they qualify as public performances and likely infringe. This is true whether the linker knew or intended to infringe, was motivated by economic gain or fandom, or is a commercial enterprise or an individual. Ignoring these lessons of Aereo, because links are ubiquitous or lawsuits have not yet targeted average Internet users, will neither render copyright-infringement-by-linking lawful nor protect infringers from the consequences of their volitional acts. Instead, the prudent course of action is “think before you link.”

Notes

1. Streaming transfers data (as audio or video) in a continuous stream for immediate playback (Mendez, 2014). Unlike downloading, streaming does not permanently store content, so does not implicate the reproduction right (*American Society of Composers, Authors and Publishers*, 2010).

2. Although this convoluted process sought to mimic both the kind of DVR service found non-infringing in *Cablevision* and the kind of equipment provider held not liable in *Sony*, Aereo had no existing agreement to transmit content and, itself, volitionally acted on copyrighted works before retransmitting them.
3. Holdings that link do not “transmit” copyrighted works, because neither they nor the HTML instructions within them directly cause of the transmission of content (rather, the Web browser interacting with the host server does) were repudiated by *Aereo* (see *Perfect 10*; *Kelly v. Arriba Soft Corp.* 2003).
4. Because linking does not implicate the reproduction, distribution, or derivative use rights, there is no direct infringement of them, and, in turn, no secondary infringement of them.
5. If the entity has constructive knowledge and fails to expeditiously disable access, or receives a financial benefit directly attributable to the infringement, it can be held contributorily or vicariously liable.
6. Similarly, assuming that the original uploader or host site of the linked-to work directly infringed, this would not render them secondarily liable for those who link or click links to it. In either case, even if the linker could disable clicker-infringer access, the clicker could simply reinsert a link to the content.

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