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How Television Viewers Use Social Media to Engage with Programming: The Social Engagement Scale Development and Validation

Miao Guo

This study investigated social television viewing behavior by introducing the social engagement construct and validating its measurement scale. A total of 655 social media users in 2 online consumer panels were sampled to complete the 3-stage research strategy. Through conceptualization and operationalization of social engagement, this study identified 4 underlying dimensions in social engagement, i.e., vertical involvement, diagonal interaction, horizontal intimacy, and horizontal influence. These 4 dimensions represent a continuum in which audiences' social engagement behaviors range from a lower level (vertical involvement) to a higher level (horizontal influence). The theoretical and practical implications of the social engagement construct were also discussed.

With the growing adoption of digital mobile devices like smartphones, tablets, and laptops, and the rise and ubiquity of social media and interactive apps, social television viewing is emerging as a noteworthy phenomenon. Social television describes audience engagement, communication, and social interaction while watching television (Stamford, 2013). Mobile enhancement apps allow audiences to remotely comment and share their favorite shows with others. Social media create a new and powerful “backchannel,” fueling the renaissance of live broadcasts. Twitter and Facebook rank among the top social media that people tend to visit when they watch television. The degree of social interaction is even higher when it comes to “event television” like the Super Bowl or Academy Awards (Toy, 2010).

This emerging pattern of social television viewing promises to enhance viewer engagement, extend the value of brands and content properties, and open up new advertising opportunities for media industries (CTAM, 2013; Guo & Chan-Olmsted, 2015; Harris Interactive, 2011). Social media, for example, offer a rare platform with attractive potential in improving audience engagement, marketing television content,

Miao Guo (Ph.D., University of Florida) is an assistant professor in the Department of Telecommunications at Ball State University. Her research interests center on audience behavior, social media, and communication technology.

and enhancing brand affinity. The engaged viewers in a multimedia environment are more likely to remember an advertisement, internalize the message, and be motivated by it than those who are less engaged (Epps, 2009).

Given the supposed significance of social television viewing, this study seeks to investigate this phenomenon through developing the construct of social engagement. This investigation employs multiple research strategies, including three focus groups and two online surveys, to develop and validate the construct and its measurement scales. The nomological validity of these measures is assessed by examining relationships of social engagement to its close constructs of program attitude and program involvement. This study is concluded with some theoretical and practical implications and directions for future research.

Conceptualization of Social Engagement

Viewer Engagement

Social engagement in this study refers to the degree of interactions or connections that a viewer develops with television content through social media platforms over time. The core component of the construct, "social engagement," is engagement. It was suggested that engagement is primarily driven by program content in the television consumption context, and the deepest engagement experience happens at the content level (Epps, 2009; Russell, Norman, & Heckler, 2004a). Askwith (2007) proposed that a television viewer's overall engagement can be expressed as the sum of the viewer's behavior, attitude, and desire in relation to given media, content, or advertising brand. Moreover, McClellan (2008) claimed that audience engagement is "a more passion-driven and more socially driven mode of watching television" across as many different platforms as possible.

Russell et al. (2004a) proposed the connectedness construct akin to engagement to capture the parasocial relationship between television viewers and television programs and characters. The authors defined connectedness as "the level of intensity of the relationship(s) that a viewer develops with the characters and contextual settings of a program in the parasocial television environment" (p. 152). In addition, the authors (2004b) emphasized the social nature of television viewing and developed the connectedness construct into three dimensions: *vertical connections* (viewer-program) described the commitment that individual viewers feel toward their favorite programs; *horizontal connections* (viewer-viewer) focused on the interpersonal relationship that viewers form with others around the show; and *vertizontal connections* (viewer-character) defined the imagined and parasocial interactions that viewers develop with characters in their favorite programs.

Considering the current cross-media video consumption pattern, Askwith (2007) revised Russell et al.'s (2004b) social interaction model, and further suggested that the horizontal aspect (viewer-viewer) of connections could be audience community building, which is facilitated and enabled primarily through

the creation of online social groups and activities. The vertical interaction (viewer-celebrity) describes the increasing opportunities for individual audiences to interact with television celebrities, which is often facilitated by various social media platforms like Twitter and Facebook. The third aspect of social interaction is diagonal interaction (viewer-character). The author suggested that the present opportunities for diagonal interaction may include reality games and blogs. The above explication of the connectedness construct points out the socially interactive nature of television viewing, and its multi-platform applications that are driven by a range of online platforms.

Engagement with Online Platforms

Audience/user engagement with different online platforms provides a useful lens to better understand social television viewing. Takahashi (2010) developed a model of social networking site engagement (e.g., Facebook). The first dimension is information-seeking activity and selectivity, including seeking, collecting, and sharing information relevant to the daily life of close friends, school life, or general issues. The second dimension is connectivity, measuring connection formation among people and groups, transnational and trans-age connectivity. The third dimension of “bricolage” emphasizes the creation of “bricolage” of friends and manages their impressions with profiles. The last dimension focuses on participation characterized by involvement in various online communities. Yanga and Kangb (2009) proposed and validated a measurement scale of blog engagement, characterized as the likelihood and outcome of interactive blog communication. The authors suggested four attributes of blog engagement, such as contingency interactivity, self-company connection (the cognitive dimension), company attitude (the attitudinal dimension), and word-of-mouth (WOM) intentions (the behavioral dimension). Their study further concluded that interactive blogs can enhance self-company connection, positive attitudes toward the company, and supportive WOM intention.

When exploring the relationship between online engagement and advertising effectiveness, Calder, Malthouse, and Schaedel (2009) provided a systematic approach to measure online engagement through eight different online experiences, including stimulation and inspiration, social facilitation, temporal, self-esteem and civic mindedness, intrinsic enjoyment, utilitarian, participation and socializing, and community. The authors grouped these eight online experiences into two categories—personal and social interactive engagement. Specifically, personal engagement is manifested in experiences of stimulation and inspiration, social interaction, self-worth, intrinsic enjoyment, and utilitarian facilitated by the site. Social interactive engagement is motivated by participation, socializing, and community building. In summary, drawing upon prior studies of viewer/user engagement, it is suggested that the social engagement construct is manifested in multi-dimensions and measured by multi-item scales.

Prior proposed dimensions serve as the foundation contributing to the conceptualization and operationalization of the social engagement construct. Conceptually, this investigation defines social engagement as the degree of intensity or types of connections that audiences develop with television content through social media platforms over time. This social engagement experience extends beyond the traditional, passive television viewing pattern by capturing active behavioral engagement and emotional connection that viewers develop with television content through social media platforms. Social media, here, consist of an expanding array of online applications that facilitate information sharing, knowledge distribution, and opinion exchanges. Typical examples are social networks (e.g., Facebook), blogs (e.g., WordPress), microblogs (e.g., Twitter), content sharing communities (e.g., YouTube), online discussion forums, podcasts, Really Simple Syndication (RSS) feeds, online social tags and bookmarks (e.g., Digg and Delicious), and mobile texting, etc. The term of television content covers a broader scope, including a television program and its ancillary information, the characters or celebrities related to the program, and professional working personnel such as producers or directors of the show.

To operationalize the social engagement construct, the present study adopts Churchill's (1979) paradigm, which outlined a comprehensive procedure for developing better multi-item measures of marketing constructs. Specifically, the first step is to specify the domain of the construct through a literature search, which involves producing a relatively precise definition of the construct of "social engagement." The second step in the procedure is to generate a sample of items, which capture the domain as specified in step one by using multiple research methods. This study employs focus groups interviews and extensive literature reviews to generate a pool of items to identify the pattern of social television viewing. The third and fourth stages are, respectively, the collection of data and the purifying of measures by conducting factor analysis and testing coefficient alpha. The first four steps of the scale development address the content validity, dimensionality, and the internal consistency of the set of scales developed. The next four steps—collecting data, assessing reliability and validity, and developing norms—are focused on assessment of reliability with new data and the issues concerning criteria and construct validity.

Social Engagement Scale Development

Item Generation

Through the qualitative process of focus group interviews and extensive review of the engagement literature, the goal of this exploratory stage is to generate a pool of items. Those items characterize the social television viewing pattern, i.e., the connections that individual audiences form with television content through social media platforms. The study first conducted three 1-hour focus groups at a

southeastern university in the fall of 2011. Discussion results were transcribed and analyzed in a systematic fashion. This study, then, adapted relevant scales measuring the engagement experiences of the Internet (Calder, Malthouse, & Schaedel, 2009; Epps, 2009; Haven, 2007), social networks (Takahashi, 2010), blogs (Yanga & Kangb, 2009), and television (Russell et al., 2004a, 2004b) to complement the results from the focus groups. The qualitative analysis yielded a final set of nineteen items that focus on behavioral statements while eliminating such statements as feelings or physiological descriptions.

1. I have watched the program(s) in video sharing community sites (e.g., YouTube).
2. I am a follower of the program(s) (including actors, writers, and producers, etc.,) in Twitter.
3. I have used my mobile phone to watch video clips, check photos and texts alerts, or play games relevant to the program(s).
4. I have subscribed to the program(s)'s RSS feeds or podcasts.
5. I have used check-in apps for the program(s) in Foursquare, Miso, Starling, GetGlue, etc.
6. I have joined the program(s)'s online fan communities.
7. I have submitted ratings, reviews, or votes related to the program(s).
8. I have uploaded or forwarded videos or photos relevant to the program(s).
9. I have sent mobile messages about the program(s) to my friends or family.
10. I have read blog posts relevant to the program(s) on blogs.
11. I have written or commented on blog posts relevant to the program(s).
12. I have read the program(s)'s posts in online discussion forums.
13. I have written or commented on the program(s)'s posts in online discussion forums.
14. I have read the program(s)'s tweets in Twitter.
15. I have written or commented on the program(s)'s tweets in Twitter.
16. I have used social bookmarks (e.g., Digg and Delicious) to tag the program(s).
17. I have used widgets to embed the program(s)' video clips or photos online.
18. I am a fan of the program(s) and share it with my friends in social networks (e.g., Facebook).
19. I have written or commented on the program(s) posts in social networks (e.g., Facebook).

Pilot Study Procedure

Study sample was selected from an online consumer panel managed by U.S. research company, *uSamp*, using an online survey program, *Qualtrics* in 2011. The researcher specified a general sample frame as active online consumers over 18 years old with a range of ages and demographics, in addition to two screening questions. The first screening question focused on the respondents' "breadth" and

Table 1
Means, Standard Deviations, and Correlations for Exploratory Factor Analysis

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.RSS	2.00	1.18	1.00														
2.MOB	1.86	1.24	.47**	1.00													
3.UPL	2.23	1.31	.47**	.50**	1.00												
4.CHK	1.75	1.11	.57**	.45**	1.00												
5.BKM	1.80	1.07	.52**	.47**	.60**	1.00											
6.WID	1.94	1.23	.59**	.55**	.52**	.63**	1.00										
7.TWL1	2.32	1.43	.49**	.38**	.33**	.35**	.31**	.40**	1.00								
8.TWL2	2.17	1.31	.42**	.38**	.46**	.45**	.50**	.57**	.63**	1.00							
9.TWL3	2.09	1.27	.58**	.58**	.54**	.58**	.62**	.69**	.60**	.76**	1.00						
10.BLG_1	3.61	1.20	.17*	.10	.17*	.08	.09	.19*	.30**	.29**	.21**	1.00					
11.BLG_2	2.93	1.43	.42**	.25**	.33**	.29**	.30**	.36**	.36**	.38**	.42**	.54**	1.00				
12.FRM_1	3.14	1.38	.29**	.20*	.25**	.20*	.23**	.30**	.29**	.32**	.34**	.66**	.59**	1.00			
13.FRM_2	2.73	1.39	.37**	.27**	.34**	.31**	.32**	.43**	.33**	.48**	.48**	.47**	.78**	.65**	1.00		
14.SNT_1	3.53	1.28	.13	.14	.26**	.24**	.24**	.23**	.15	.27**	.25**	.14	.31**	.22**	.26**	1.00	
15.SNT_2	3.20	1.40	.26**	.21**	.28**	.29**	.31**	.33**	.14	.27**	.28**	.23**	.51**	.30**	.37**	.65**	1.00

Note. RSS = subscribing to the program(s)' RSS feeds or podcasts; MOB = using mobile phone to watch video clips, check photos and text alerts, or play games relevant to the program(s); UPL = uploading or forwarding videos or photos relevant to the program(s); CHK = using check-in apps for the program(s) in GetGlue, Foursquare, Miso, Philo, or Starling, etc.; BKM = using social bookmarks (e.g., Digg and Delicious) to tag the program(s); WID = using widgets to embed the program(s) video clips or photos online; TWL1 = a follower of the program(s) (including actors, writers, producers, etc.) in Twitter; TWL2 = reading the program(s) tweets (including actors, writers, producers, etc.) in Twitter; TWL3 = writing or commenting on the program(s) tweets (including actors, writers, producers, etc.) in Twitter; BLG_1 = reading blog posts relevant to the program(s); BLG_2 = writing or commenting on blog posts relevant to the program(s); FRM_1 = reading the program(s) posts in online discussion forums; FRM_2 = writing or commenting on the program(s) posts in online discussion forums; SNT_1 = a fan of the program(s) and sharing it (them) with friends in social networks (e.g., Facebook and MySpace); SNT_2 = writing or commenting on the program(s) posts in social networks (e.g., Facebook and MySpace). * $p < .05$, ** $p < .01$, (two-tailed). $n = 161$

“depth” of experiences with various social media platforms. The “breadth” experience measured how many platforms the respondents used among the listed 29 social media tools, which were categorized into social networks (e.g., Facebook, Bebo, Friendster, Hi5, StumbleUpon, Foursquare, Gowalla, Miso, Philo, Starling, GetGlue, and Ning), blogs (e.g., WordPress and Xanga), microblogs (e.g., Twitter and Tumblr), online discussion boards/forums, social bookmarks (e.g., Digg, Delicious, Reddit, and Tagged), content sharing communities (e.g., YouTube, FunnyOrDie, Vimeo, and Flickr), podcasts, RSS feeds, mobile texting applications (apps), and widgets. The “depth” aspect of social media experience measured how often the respondents used their chosen social media platforms through a five-point Likert-type scale (1 = *very rarely*, 5 = *very frequently*). If the respondents did not obtain any experience with the listed 29 social media, they were disqualified to participate in this study; if they had used at least one social media platform in the list, they were qualified to continue the survey.

The next screening question measured whether the respondents ever utilized their chosen social media to comment, post, watch, or read anything about television programs. If the respondents had no such social media use experience, they were disqualified and automatically filtered out of this study. Following these two screening questions, the qualified respondents were further asked to identify the specific program titles that they used social media to interact and their level of agreement with—the 19 proposed social engagement statements—on a 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*).

Descriptive Statistics. A total of 435 individuals responded to the screening process and 161 were qualified to complete the entire survey, providing an incident rate of 37.0%. Regarding the first initial “breadth” and “depth” social media experience questions, the study found that Facebook is the most popular social media platform with 91% penetration rate, followed by content sharing community YouTube (52%), Twitter (27%), mobile texting apps (15%), and online discussion boards/forums (14%), respectively. In terms of the frequency of social media usage, mobile texting apps are the most frequently used

Table 2
Models and Goodness of Fit Indices by Exploratory Factor Analysis

Model	χ^2	df	CFI	TLI	RMSEA	SRMR
Null model	1753.54	171				
Model A One-factor model	706.17	152	.650	.606	.150	.111
Model B Two-factor model	404.83	134	.829	.782	.112	.064
Model C Three-factor model	296.37	117	.887	.834	.098	.048
Model D Four-factor model	220.50	101	.924	.872	.086	.042

Note. n = 161

Table 3
Factor Structure Matrix by Exploratory Factor Analysis

Factor items	Factor loading			
	Vertical involvement	Diagonal interaction	Horizontal intimacy	Horizontal Influence
Vertical Involvement				
I have used social bookmarks (e.g., Digg and Delicious) to tag the program(s).	.877	-.060	-.042	.023
I have used widgets to embed the program(s)'s video clips or photos online.	.854	-.003	.056	.002
I have used check-in apps for the program(s) in Foursquare, Miso, Philo, Starling, or GetGlue, etc..	.724	.032	-.036	.042
I have used my mobile phone to watch video clips, check photos and text alerts, or play games relevant to the program(s).	.614	.111	-.027	-.023
I have subscribed to the program(s)'s RSS feeds or podcasts.	.582	.072	.151	-.028
I have uploaded or forwarded videos or photos relevant to the program(s).	.526	.105	.068	.043
Diagonal interaction				
I am a follower of the program(s) (including actors, writers, producers, etc.) in microblogs (e.g., Twitter).	-.011	.722	.068	-.044
I have read the program(s) tweets (including actors, writers, producers, etc.) in microblogs (e.g., Twitter).	.109	.770	-.009	.071
I have written or commented on the program(s) tweets (including actors, writers, producers, etc.) in microblogs (e.g., Twitter).	.416	.578	.009	-.004
Horizontal intimacy				
I have read blog posts relevant to the program(s).	-.167	.049	.716	-.020
I have written or commented on blog posts relevant to the program(s).	.042	-.046	.790	.180
I have read the program(s) posts in online discussion forums.	-.001	-.037	.798	-.023

I have written or commented on the program(s) posts in online discussion forums.	.085	.034	.793	.013
Horizontal influence				
I am a fan of the program(s) and share them with my friends in social networks (e.g., Facebook).	-.016	.119	-.039	.649
I have written or commented on the program(s) posts in social networks (e.g., Facebook).	.038	-.051	.034	.973

modalities ($M = 4.05$, $n = 64$), followed by Facebook ($M = 3.92$, $n = 398$), YouTube ($M = 3.29$, $n = 231$), and online discussion forums ($M = 3.20$, $n = 60$).

Among the total of 402 responses on online social media usage, 41% did use social media to comment, post, watch, or read anything about specific television programs. Of these social media use responses, 30% used social media to interact with television content after viewing the program, 17% before viewing the program, and 12% did so during program viewing. The specific television programs mentioned for audience-content interaction included 83 titles. These programs were categorized into the following genres ranked by their popularity. The five most popular genres—reality shows, drama, sitcoms, animated comedies, and game/talk shows—were used to construct a final list of 19 television programs for the main test.

Confirmatory Factor Analysis. To discover the dimensions underlying the proposed social engagement construct, this investigation employs the Confirmatory Factor Analysis (CFA) procedure to identify factor loadings using the data analysis program *Mplus* 6.0. By analyzing the screen plots and goodness of fit indices, a four-factor model showed the best fit with a comparison of four other models, suggesting a scale with four underlying dimensions or levels of the social engagement construct. These four other models examined were null model or zero-factor model, a single-factor model (Model A), two-factor model (Model B), and three-factor model (Model C). The one-factor model was first estimated resulting in a $\chi^2 = 706.17$ with 152 *df*, CFI = .650, TLI = .606, RMSEA = .150, and SRMR = .111. This lack of fit indicated that a single factor could not adequately explain the covariance among the indicators. The two-factor and three-factor structures also did not result in improved fit over the one-factor model. The four-factor model, which resulted in a $\chi^2 = 220.50$ with 101 *df*, CFI = .924, TLI = .872, RMSEA = .086, and SRMR = .042, indicated a substantial improvement in fit. However, it should be noted that the fit indices showed that the four-factor model fit the data adequately but not good. The five-factor model was also tested but none of the factor loadings was greater than .50 on the fifth factor. The intercorrelations matrix, EFA model estimations, and factor structure are shown in Tables 1, 2, and 3, respectively.

Social Engagement Dimensions

According to the previous explication of the connectedness construct, television viewers' social interaction behavior could be manifested in three ways: 1) interacting with a core program content and/or ancillary content (vertical dimension), 2) interacting with other television viewers (horizontal dimension), and 3) interacting with the characters/celebrities related to the programs (diagonal dimension) (Askwith, 2007; Russell et al., 2004b). Building upon these three social interaction components, the four dimensions of the social engagement construct identified in this study are conceptualized as: vertical involvement, diagonal interaction, horizontal intimacy, and horizontal influence. These four dimensions reflect how television audiences take advantage of

each social medium's capability to engage with television program content and/or related information, characters/celebrities, and other television viewers over time.

The first dimension, vertical involvement, measures the degree to which television viewers actively use a range of social media platforms to engage their favorite programs. Their involvement may be manifested through such behaviors as: 1) utilizing social bookmarks like Digg to tag the program, 2) using widgets to embed the program's video clips or photos online, 3) using check-in apps of the program in several entertainment-focused social networks (e.g., Foursquare, Miso, Philo, Starling, or GetGlue), 4) watching video clips, checking photos and text alerts, or playing games relevant to the program on a mobile phone, 5) subscribing to the program's RSS feeds or podcasts, and 6) uploading or forwarding videos or photos relevant to the program. The vertical involvement dimension characterizes the participatory behavior in relation to the core content and/or ancillary content of a program. The involvement activities are more one-way oriented but critical, because they cover a range of touchpoints that an individual could have with television content. The content ranges from core programming to ancillary information, which includes new materials that supplements, expands, or enriches the audiences' overall knowledge, such as critiques, gossip about the stars, behind-the-scenes interviews, and television promos.

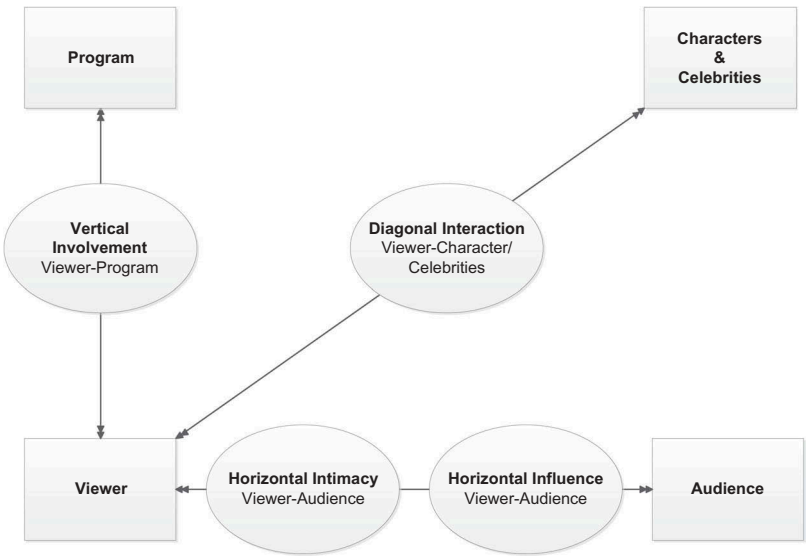
The second dimension, diagonal interaction, measures the extent of social interaction viewers develop with characters or celebrities related to their favorite programs in a social media context. Such engagement behaviors are mainly facilitated by a microblog, Twitter, indicated as 1) following the program's performers, writers, director, producers, or other professionals in Twitter, 2) reading the program's tweets relevant to the characters or celebrities in Twitter, and 3) writing or commenting on the program's tweets relevant to the characters or celebrities in Twitter. These behaviors embody a rising trend, which indicates that viewers are increasingly taking a more active interest in television professionals who work behind the scenes, in addition to the performers in a program (Askwith, 2007). Powered by the Internet relay chat function of Twitter, the participation of celebrities/characters and other personnel of television programs in the social media vehicle could prompt involvement from new audiences—who might not have paid much attention to the activities surrounding a program—to further stimulate audience interaction with the program. For example, over the past few years, broadcasters have been eager to embrace Twitter to provide new ways to drive viewer engagement. One of the important new approaches is to recruit a long list of stars involved in their shows to complement their overall social television campaigns.

The third dimension, horizontal intimacy, measures the extent to which individual viewers emotionally respond to a television program, and their resultant affection toward branded content sharing with other audiences. This dimension captures a deeper and more intimate connection between the viewers through the following "peer-to-peer" social media activities: 1) reading blog posts relevant to the program, 2) writing or commenting on blog posts relevant to the program, 3) reading the program posts in online discussion forums, and 4) writing or commenting on the program posts in online discussion forums. These activities are becoming more commonplace, as a growing number of television programs have launched

their own official message boards—or related blogs in their broadcast and cable network Web sites—or local television station sites. In addition, devoted fans also build their own online discussion boards or enjoy blog posting and commenting related to their favorite shows. By either approach, the horizontal intimacy dimension indicates a mode of engagement—the viewers emotionally desire to be immersed in a television program. Driven by the immersive experiences, such peer-to-peer behaviors as expressing their own opinions or responding to others in blogs/online forums, demonstrate the audience’s connections with other viewers through their presence in these online communities.

The last dimension, horizontal influence, measures the degree of audience identification and belonging, as well as the extent of meaningful influence in the direction or outcome of television programming in a peer-related space like social networks (e.g., Facebook). Such typical activities include: 1) identifying oneself as a fan of the program and sharing it with friends in social networks (e.g., Facebook), and 2) writing or commenting on the program posts in social networks (e.g., Facebook). The horizontal influence dimension involves peer-to-peer interaction between audiences of the program and potential meaningful influence on non-audiences. Driven by the relationship-focus and identity-nature in social networks like Facebook, the desire to signal one’s personal preferences or identification of “fan” status about a particular show in this platform, to some degree, indicates that the viewer draws upon the program—as part of self- and social-identity—as well as adding meaning to

Figure 1
A Model of Social Engagement with Television Content



his/her relationship with others. In addition, influential opportunities also exist when a particular show solicits viewers' status updating, opinion input, and program sharing in these social networks. These activities have significant potential impacts on the individuals' online friends, regardless of whether they are the loyal audiences of the program or not. In this sense, the television viewer becomes an ambassador on behalf of the television brand to advocate, recommend, and finally, personally promote certain television content (Figure 1).

Scale Reliability

Scale reliability focuses on the proportion of variance in a measure, which is attributable to the true score on the latent construct that is being measured (DeVellis, 1991). Coefficient alpha is usually used to estimate the reliability of a multi-item reflective scale through offering an indication of a scale's internal consistency. Churchill (1979) proposed that coefficient alpha should be calculated for each dimension as well as the whole construct during the measure purification stage. Specifically, this study chooses the most commonly accepted measure—Cronbach's coefficient alpha—to estimate internal consistency reliability for the whole scale and its four dimensions. The acceptable value for Cronbach's coefficient was suggested to be above .70 (Nunnally, 1978). The Cronbach's coefficient alpha for the whole social engagement construct was .90, and the values for the four dimensions of vertical involvement, diagonal interaction, horizontal intimacy, and horizontal influence were .88, .852, .87, and .782, respectively. These results suggest that the 15 sample items performed well in capturing the proposed social engagement construct indicated by high internal consistency reliability.

Social Engagement Scale Confirmation

Main Test

Procedure. The pilot test offered a theoretical rationale for the proposed social engagement construct. To further confirm the measurement scales, the researcher conducted the main test by surveying another online consumer panel with 494 qualified respondents. The main test was also administrated by *uSamp* using the online software program, *Qualtrics* in 2011. Different from the second screening question in the pilot test, the main test asked respondents whether they ever used their chosen social media to comment, post, watch, or read anything about a specific show from a 19 program list¹ provided by the researcher. If the respondents did not have any experiences with the listed social media nor ever used their chosen social media to interact with the given television programs, they were disqualified to continue the main survey. Following the screening questions, the survey asked the respondents when they typically used social media to comment, post, watch, or read anything about these

programs. The main survey next instructed the respondent to choose one of the socially engaged shows as his/her favorite, so the subsequent set of social engagement questions was based on the favorite television show, using a 5-point Likert scale for the 15 items.

A total of 1,427 individuals responded to the main test and 494 were qualified to complete the whole survey, yielding a 34.6% incident rate. Regarding the first screening question in the main test, social media "breadth" experience, it is not surprising that the popularity of the social media platforms is the same as the pilot test results. Specifically, Facebook is the most commonly used social media tool with the highest penetration rate of 93% ($n = 1,328$), followed by YouTube (52%, $n = 746$), Twitter (30%, $n = 421$), and mobile texting apps (16%, $n = 226$). Regarding the social media usage frequency, the results were also identical with the pretest, showing that mobile texting apps are most frequently used ($M = 4.02$, $n = 1,314$), followed by Facebook ($M = 4.02$, $n = 1,314$), YouTube ($M = 3.40$, $n = 735$), and online discussion boards/forums ($M = 3.37$, $n = 176$).

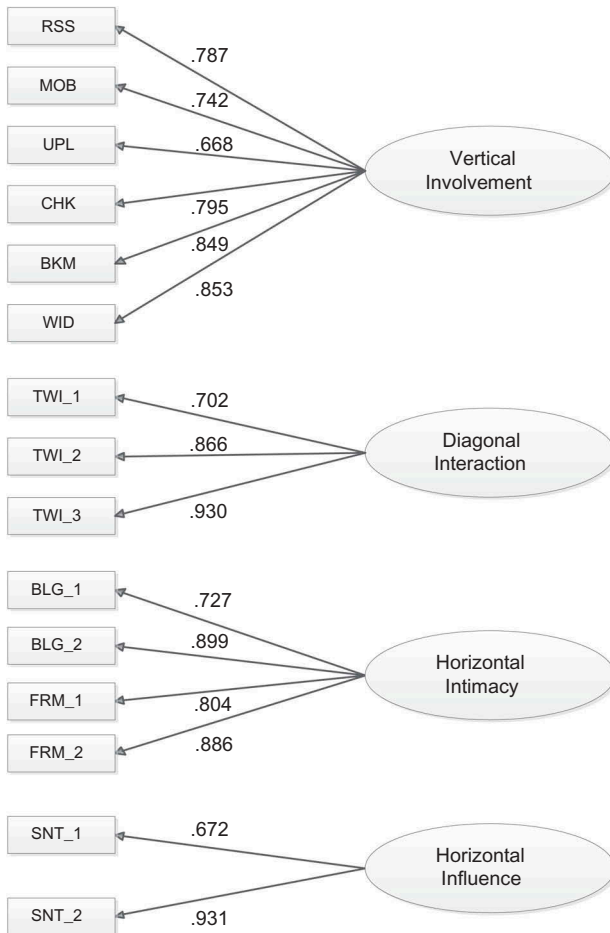
For the second screening question, the study asked the respondents to identify whether they had used their chosen social media to comment, post, watch, or read anything about the given 19 television programs. The specific program list was composed by referring to two sources: 1) the frequency of the 83 programs derived from the pretest, and 2) an online database, *Social Television Charts* (<http://trendrr.tv/>), which is a comprehensive television index that incorporates multiple social and syncoated data sources tracking all major networks and shows. The index includes such social media activities as public Facebook posts, Twitter mentions, GetGlue check-ins, and Miso check-ins. A final list of 19 programs was constructed for the main test. Among the total of 1,314 online social media users, 41% of them had utilized social media to interact with these television programs at least once. The most socially involved shows were *NCIS* ($n = 150$) and *America's Got Talent* ($n = 146$), whereas *Monday Night Raw* and *Pretty Little Liars* invoked the least social activities around these shows. Among these socially involved programs, the social media users were further asked to choose one as their favorite.

As a means to assess the social viewing pattern, the survey next asked the respondents when they typically used their selected social media to interact with these programs. The pattern was similar but not totally the same with the results revealed in the pilot test: 57% of respondents used social media to interact with the shows after they watched the programs, 23% of respondents interacted while they watched the programs, and 20% interacted before they watched the programs. However, the pretest results showed that the pattern was: after (30%), before (17%), and during (12%). Summarily, two tests indicate that the majority of online adults prefer to use various social media platforms to interact with television programs after they have watched the shows.

Participants. There were 484 respondents who completed the demographic information in the main test. The average age in the main test was 38.62 ($SD = 15.28$), a younger sample than those in the pilot test with mean age of 43.01 ($SD = 16.45$). Males ($n = 151$) accounted for 30.6% while females totaled

67.4% (n = 333) in the main test. Although the gender structure was shown to be similar in the main test, there was a higher percentage of females (80.1%) than males (19.9%) in the pretest. When it comes to ethnicity in the main test, white Caucasians accounted for 74.5%, African-Americans and Asians had the same weight (7.4%), followed by Latino/Latina/Hispanics (6.0%). The ethnic structure in the pretest showed a little different result with white Caucasians making up 83.2%, followed by African-Americans (6.2%), Hispanics (4.3%), and Asians (2.5%), respectively.

Figure 2
Four-Factor Path Model



Confirmatory Factor Analysis. The CFA was performed on the 494 responses with the item correlation matrix as input and maximum likelihood as the model estimation technique. A series of models was estimated and the four-factor model was validated. All models were compared to a null model in which each manifest indicator was treated as an independent, orthogonal component. A single-factor model, comprising fifteen items to tap a common construct, was estimated, resulting in a $\chi^2 = 1303.90$ with 90 *df*, CFI = .779, TLI = .742, RMSEA = .165, and SRMR = .090. The lack of fit indicated that a single factor could not adequately explain the covariance among the indicators. The four-factor model in which correlations between factors were allowed, resulted in a substantial fit with a $\chi^2 = 377.79$ with 84 *df*, CFI = .946, TLI = .933, RMSEA = .084, and SRMR = .042, which suggested that the model fit the data more adequately.

Construct validity for each scale was assessed by examining the standardized CFA factor loadings for its hypothesized items, which were originally derived from the EFA procedure. For acceptable construct validity, it is proposed that each item should have a minimum factor loading of .60 on its hypothesized latent factor (Nunnally, 1978). The norm was met for the 4-factor model, with all factor loadings greater than .60 with a significant level at $p < .001$ through a two-tailed test. As shown in the path model, the factor loadings suggest that the social engagement behavior was more characterized by the one-way participatory involvement activities and social interaction with characters/celebrities than the influencing activities among audience members (Figure 2).

Discriminant Validity

Discriminant validity is provided by the lack of a significant relationship with constructs that should not, nomologically, be related. Specifically, a discriminant validity test was performed by calculating correlation coefficients and 95% coefficient intervals between social engagement, viewer affinity, and viewer involvement. Rubin and Perse's (1987) four-item affinity measures were adapted to tap respondents' attitudes about their favorite television shows, resulting in .835 Cronbach's coefficient alpha. Park and McClung's (1986) seven semantic differential items were applied on a 5-point scale to measure audience involvement, generating a .913 Cronbach's coefficient alpha. The social engagement scale from the 494 observed data points yielded .941 Cronbach's alpha. Given the large sample size, all correlations were statistically significant at the .01 level and examined for their practical significance. The correlation between social engagement and viewer affinity was .376, with a 95% confidence interval between .298 and .449. This small correlation between social engagement and viewer affinity provides initial evidence of discriminant validity. Likewise, the correlation between social engagement and viewer involvement was .236, with a 95% confidence interval ranging from .151 to .318. All the correlation analyses provided solid evidence that neither viewer affinity nor involvement should, by theory, be related to social engagement, and they are not.

Discussions

This investigation on the social engagement construct and its measurement scale makes a variety of important contributions toward advancing knowledge within the behaviorist audience research domain. As a behavioral-oriented measure of audiences, social engagement deciphers the social television viewing pattern happening simultaneously at both the content and the platform levels. Most importantly, it depicts an aggregate, vivid profile of cross-media multitasking viewers, who have already developed ideas about what type of content fits best on which social media platforms. In other words, television viewers are taking advantage of the capability of each social medium to consume different television content and best reflect their consumption needs. For example, television viewers have recognized Twitter as one of the best communication channels that bridges the conversations between viewers and characters/celebrities, while social networks like Facebook serve more as a peer-related space for sharing information and garnering recognition through contributions.

This study is unique in that it identifies the four underlying dimensions in social engagement behavior—vertical involvement, diagonal interaction, horizontal intimacy, and horizontal influence. The four dimensions demonstrate a continuum in which social viewing behavior ranges from the lowest level (i.e., vertical involvement) to the highest level (i.e., horizontal influence). The vertical involvement dimension seems to represent the lowest degree of this social viewing pattern, reflecting the participatory behavior related to the core content and/or ancillary information of a program. Whereas vertical involvement depicts various social media touchpoints, the dimension of diagonal interaction represents the dialogues between audiences and media figures through the microblog Twitter. The horizontal intimacy dimension goes beyond diagonal interaction to characterize the affection and sentiment that audiences possess for television programming, measuring peer-to-peer activities such as expressing one's own opinions and responding to the perspectives from others in blogs and online forums. The horizontal influence dimension goes beyond even sentiment to signal an individual audience's self- and social-identification, and further represents the individual audience's influential potential on his/her friends in social networks through sharing and recommendation of the program. In other words, the social engagement experience starts with the relationship between audiences and the branded television content and continues to extend that relationship to other audience members.

In terms of practical implications, this investigation highlights the contribution of the social engagement construct and its measurement scale in overcoming the limited nature of traditional audience measures based on reach and frequency. The television ratings system as a traditional audience measure has been a useful metric to advertisers and broadcasters for a long time, but the system mainly emphasizes audience size and volume of viewing. As audiences' television consumption habits continue to fragment across multiple devices and social media platforms, it is now critical to assess audiences' attitude and engagement towards a television program through cross-media multitasking. In this context, social engagement, defined as the social television viewing experience using

diverse social media platforms, is meaningful to the audience research industry when examining the quality and quantity of audiences for commercial purposes.

The introduction of the social engagement construct and its validation empirically point to the usefulness of developing a social television ratings system in the audience research industry. The social television ratings may aggregate publicly available social commentary, filter, and normalize these data from disparate sources (e.g., Facebook, Twitter, and event-based social networks like GetGlue) and further assess the underlying sentiment of a broader range of online consumers. In addition, the metric may provide a more complete view of viewer engagement related to shows across diverse social media platforms in real-time, as well as beyond the initial airing time slot of each episode. In fact, the gigantic research company Nielsen has partnered with Twitter to launch the first social television measurement on a large scale—Nielsen Twitter TV Ratings—in 2013. Since January 2016, Nielsen has expanded Twitter TV Ratings to include Facebook conversation and renamed it “Social Content Ratings.”

As the television industries increasingly compete against alternative distribution platforms while facing fragmented audiences with decreasing loyalty, it is vital for television broadcasters/advertisers to develop a more long-term relationship with their viewers through cross-platform strategies. This study, therefore, empirically addresses the issue of whether television broadcasters/advertisers should devote resources to develop social engagement strategies and how they should approach them. This determination is important, as the careful deployment of resources is most essential in a competitive environment. This study anticipates there will be more partnerships between the television and social media industries in the near future, which will eventually impact all stakeholders in the television industry, including program producer, cable/broadcast networks, local television stations, cable/satellite system operators, and advertisers.

When it comes to the major player, advertisers, the findings in this study highlight the growing importance of cross-platform advertising campaigns in reaching targeted and involved audiences. There is no doubt that, at present, social television viewing has not evolved into a common consumption pattern among television viewers, and the demographic structure of viewers who engage is not representative of the overall U.S. population. Nonetheless, the evolving social viewing pattern increasingly adopted by online users provides a great opportunity for advertisers because they can target these television audiences in a highly engaged environment by extending their television advertisement for particular shows to the equivalent social media channels and mobile devices.

Finally, this study recognizes that validity testing of a newly established construct is an ongoing effort. This investigation offers the evidence that the social engagement construct is unique from other constructs. However, the study acknowledges the need for further discriminant and nomological validity testing, particularly to fully differentiate social engagement from involvement, attitude, and connectedness. As the online surveys were conducted before the emergence of many popular social media like Snapchat and Instagram, as well as growing second screen social television tools like TVtag, the results of the study were constrained by the dynamic nature of social media and their functionality. Moreover, the social engagement viewing

may experience three stages, i.e., point of engagement (reengagement), engagement, and disengagement. It is also suggested that social engagement viewing behaviors are varied with different social media platforms. Accordingly, to further investigate the cycling process of social engagement among different social media platforms and its ensuring effects may highlight the different attributes represented in the different stages of social engagement. The examination of the relationships among the four social engagement dimensions is also a promising direction for future research on social television viewing.

Note

1. The television program list by the number of social media users: *NCIS, America's Got Talent, Family Guy, The Simpsons, Glee, True Blood, South Park, The Big Bang Theory, How I Met Your Mother, Big Brother, Jersey Shore, Teen Mom, The Office, The Vampire Diaries, Keeping Up with the Kardashians, Conan, Gossip Girl, Monday Night Raw, and Pretty Little Liars.*

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Drew P. Cingel & Megan K. Olsen

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Getting Over the Hump: Examining Curvilinear Relationships between Adolescent Self-Esteem and Facebook Use

Drew P. Cingel and Megan K. Olsen

Literature examining self-esteem and social networking site use has generally considered linear relationships between these variables. Mixed results in this extant literature and Self-Affirmation Theory indicate that a curvilinear relationship is possible. Data from a survey of 337 Dutch adolescents (ages 12–18) suggest a curvilinear relationship between self-esteem and Facebook use. Relative to higher and lower levels of self-esteem, moderate levels of self-esteem correspond to the highest levels of both Facebook use and specific activities, such as text- and visual-based social contributions. Results clarify our understanding of the relationships between the well-being variable, self-esteem, and social networking site use.

Research has indicated that a majority of online teens use some kind of social media, and 71% of these users maintain profiles on Facebook. Furthermore, 41% of those with Facebook named it as the site they use most often (Lenhart, 2015). Researchers have likened social networking site profiles to “social resumes,” whereby individuals can communicate the elements of themselves of which they are most proud (Manago Graham, Greenfield, & Salimkhan, 2008) while receiving feedback from others.

Although negative information may be posted on social networking site profiles, research suggests that the bulk of information presented is positive in nature (Toma & Carlson, 2015) especially given individuals’ tendencies to share positive events socially but process negative events privately (Choi & Toma, 2014). Research has suggested that receiving positive comments on one’s profile was related to increases in self-esteem (Valkenburg, Peter, & Schouten, 2006).

Drew Cingel (Ph.D., Northwestern University) is an assistant professor in the Department of Communication at the University of California, Davis. His current areas of research include the relations between adolescent social and emotional development and the use of social networking sites, parent-child interactions during e-reading experiences, and the impact of media use on children’s moral reasoning.

Megan Olsen (B.A., Northwestern University) is a master’s student in the School of Social Service Administration at the University of Chicago. Her research interests center on media’s capacity to encourage prosocial behaviors and emotional resiliency.

Self-esteem, or one's valuation of himself or herself (Blascovich & Tomaka, 1991), has been studied increasingly in the context of social networking site use. Thus far, this literature has been mixed in terms of the valence of the relationship between these two variables, finding positive (Valkenburg et al., 2006), negative (Hill, 2014), and null relationships (Skues, Williams, & Wise, 2012). This body of work, however, has only considered linear relationships. Recent work conducted by Toma (2013) and colleagues (2013) suggests that self-affirmation theory (Steele, 1988) can be effectively used to predict relationships between self-esteem and social networking site use, specifically Facebook. Although these researchers have only used self-affirmation theory to examine linear relationships, we argue that this theory can also predict curvilinear relationships, and thus, seek to add to and clarify this literature by considering a curvilinear relationship between adolescent self-esteem and Facebook use.

Using survey data collected from a sample of Dutch adolescents, this article examines the association between self-esteem and Facebook use, the social networking site catering to the most robust adolescent population in the Netherlands and across much of the world (comScore, 2013). Furthermore, following the call of Ellison, Steinfield, and Lampe (2011), we also analyze the associations between self-esteem and specific types of Facebook activities, providing more nuance to researchers' understanding of the relationship between individuals' self-esteem and overall social networking site use. We utilize self-affirmation theory (Steele, 1988) to help explain these relationships.

Research on Self-Esteem and Social Networking Site Use

As we have noted, there is a relatively large body of research that has examined the association between social networking site use and self-esteem. Many of these studies have used cross-sectional data (see Steinfield, Ellison, & Lampe, 2008), and relied on theory to determine the ordering of the relationship (i.e., whether self-esteem is the independent or dependent variable). Since we consider a curvilinear relationship between these variables, the ordering of this relationship is essential, as linear relationships can be reversed, but curvilinear ones cannot. Thus, it is important to attend to the ordering of the variables, as well as the valence of the relationship in the published research.

In the existing literature, a number of studies proposed social networking site use as the independent variable in the relationship. This literature has, to date, presented conflicting findings as to the valence of the relationship between social networking site use and self-esteem, with published results suggesting negative (Hill, 2014; Kalpidou, Costin, & Morris, 2011; Niera & Barber, 2014), positive (Kim & Lee, 2011; Steinfield et al., 2008; Valkenburg et al., 2006), and null relationships (Skues et al., 2012)

Existing literature has, to a lesser degree, also conceptualized self-esteem as the independent variable in this relationship, as we have in the present study. Once

again, findings have been mixed. For example, Barker (2010) noted that American college students' collective self-esteem, or the value one places on group identity, was positively associated with communication with individuals' group members via social networking sites. Similarly, Gangadharbatla (2008) studied an American college-aged sample and found a comparable positive relationship between collective self-esteem and attitudes toward using social networking sites. Work has also suggested, however, that low self-esteem is related to increased social networking site use for Canadian college students (Mehdizadeh, 2010). Researchers have also reported null associations between self-esteem and social networking site use (e.g., Wilson Fornasier, & White, 2010), noting that variability in levels of self-esteem did not influence the amount of time students spent engaging with those sites.

There are likely a number of reasons that might explain these mixed findings, both for when self-esteem is considered as an independent or dependent variable in its relationship with social networking site use. The literature referenced above has been collected from a number of countries, including the United States, the Netherlands, Canada, and Australia. We do not, however, suspect differences by country, as these four countries are relatively similar across a number of important variables. Additionally, many of these studies used college-aged samples, and still found differing patterns of results (compare Barker, 2010; Mehdizadeh, 2010; for example). While this is certainly not conclusive, and much more room exists in the literature for these potential investigations, we argue that one possible reason for the differing patterns of relationships is that the relationship is curvilinear, rather than linear. Why might this be the case?

Self-Affirmation Theory in the Context of Facebook Use

One theory that may predict such a curvilinear relationship is self-affirmation theory (Steele, 1988). This theory holds that individuals function to "maintain global conceptions of self-adequacy" (Steele, 1988, p. 289) and respond to specific threats to their competency by affirming general personal values rather than confronting the particular challenge. According to self-affirmation theory, individuals seek to satiate their fundamental need for self-worth by consciously or unconsciously attending to information that confirms the most valued, central aspects of their self-concept. That is, individuals tend to focus on things that fit with their positive views of their own lives (Steele, 1988).

In the context of Facebook use, previous research suggests that users think about the content they post, and select content that they think positions them in the best possible light (Manago et al., 2008; Toma & Carlson, 2015). This process is referred to as selective self-presentation (Walther, 1996). Gonzales and Hancock (2011) found that looking at one's own Facebook page corresponded to greater levels of state self-esteem than looking at oneself in a mirror (Gonzales & Hancock, 2011). Gentile, Twenge, Freeman, and Campbell (2012) also found that exposure to one's Facebook page was related to increases in self-esteem. In this way, Facebook profiles

may function to encapsulate the positive aspects of one's life in a manner highly conducive to self-affirmation. Thus, self-affirmation may be an outcome of social networking site use. Indeed, Toma and Hancock (2013) found that Facebook profiles satisfy individuals' need for self-worth, and allow them to repair self-worth after experiencing a threat to their ego. As such, these authors argued that the psychological benefits conferred by these functions, including self-esteem, may be part of what makes Facebook use attractive to users, even if users are not consciously aware of these mechanisms that bolster self-worth. Considering this research, it is likely that there is a link between self-esteem and the overall amount of time that an individual spends on Facebook.

In this study, we examine self-esteem as an independent variable in the relationship with Facebook use because self-affirmation research suggests that, although individuals are motivated to maintain positive views of self, they do not feel compelled to seize all possible opportunities to maximize self-esteem once a basic positive threshold has been established (Tesser & Cornell, 1991; Toma, 2013). That is, once self-esteem reaches a certain high level, individuals may not be as interested in engaging in selective self-presentation and self-affirming activities. This fits with Steele and colleagues' (1993) belief that those with high self-esteem may be less vulnerable to identity threats due to their larger, more accessible store of psychological resources from which to self-affirm. For this reason, we expect those with high levels of self-esteem to devote less time to viewing and engaging with their Facebook profiles, since they no longer need to focus on enhancing their own self-worth or self-esteem. As such, and as predicted by self-affirmation theory, overall Facebook time should be lower among those with higher self-esteem.

For those still striving to achieve a certain threshold of self-esteem, however, Facebook poses a bountiful opportunity to affirm the qualities of an optimal self. Therefore, it is likely that individuals with more moderate levels of self-esteem would use the site more often, as they subconsciously or consciously seek to self-affirm—by viewing the content they have selectively self-presented—as well as the site's reminders of their existing social network and previous positive interactions. Thus, these individuals with more moderate levels of self-esteem would be able to feel self-affirmed by spending time on Facebook and viewing self-posted content that portrays them in a positive light. Consequently, we would expect this group to use Facebook more frequently than individuals with higher self-esteem.

It is conceivable, however, that individuals with very low self-esteem may be unable to discern their genuine positive qualities and accomplishments (see Baumeister, 1993), and thus may not be capable of maintaining the sort of social networking site profiles from which one can self-affirm. Research suggests that while high self-esteem individuals tend to draw attention to their positive qualities, those with low self-esteem focus more on ensuring that their flaws are not highlighted (Baumeister, Tice, & Hutton, 1989). For instance, a 2010 survey revealed that girls ages 14–17 with low self-esteem were more likely to acknowledge that the self they presented on their social-networking profile did not match their in-person self (Girl Scouts Research Institute, 2010). This indicates that

individuals may address a void of positive self-information by putting forth a presentation that is less genuine as it both underplays negative facets and exaggerates or fabricates positive facets. However, this would not be conducive to self-affirmation, since self-affirmation is related to core aspects of one's self-concept (Steele, 1988).

Wood, Perunovic, and Lee (2009) found that positive self-statements made by individuals with low self-esteem can backfire and make the individual feel worse, by drawing the individual's attention to the discrepancy between their life and their positive self-statements. An individual may also run into issues, given that one's Facebook friends tend to also be offline friends who could call one out for constructing an unrealistic profile (Ellison & Boyd, 2013). These authors found that while undergraduates with low self-esteem recognized that Facebook could be a fruitful conduit of social connections, they were unable to capitalize on this opportunity because they tended to share negative information, which led to lower likeability and decreased positive reinforcement (i.e., fewer likes and comments).

Additional research suggests that those who spend more time on Facebook are more likely to engage in social comparison and perceive others' lives as happier and better than their own (Chou & Edge, 2012). Thus, not only would Facebook not allow these individuals to grow their low self-esteem via self-affirmation, it also would provide these relatively vulnerable users with constant evidence of others' perceived high worth. Therefore, we would expect those with lower self-esteem to spend less time on Facebook, as it may not provide the opportunity for self-affirmation, given these individuals' potential difficulty in discerning truthful, positive information that they can post onto their Facebook profile, as well as their propensity to post negative information (Forest & Wood, 2012).

In sum, we posit that the relationship between self-esteem and Facebook use is curvilinear rather than linear. Both self-affirmation theory and previous results allow for such a prediction. We argue that individuals low in self-esteem may not feel capable of positive and accurate selective self-presentation. Unable to post truthful, positive information on their profiles and thus potentially engage in self-affirmation, these individuals will be less drawn to use Facebook. We expect those with more moderate self-esteem to embrace the site, in order to affirm the qualities of self and reach a satisfactory level of self-worth. Those with high self-esteem will no longer need to use the site as frequently due to their already achieved, relatively stable feelings of high self-esteem. Considering the link established in the literature between gender and age (Correa, Hinsely, & Gil de Zúñiga, 2010), as well as social network size (see Ellison, Steinfield, & Lampe, 2007) on Facebook use, these variables will be used as controls in all analyses. Thus, we predict:

- H₁: Controlling for gender, age, and network size, there will be a curvilinear relationship between self-esteem and Facebook use, such that those low and high in self-esteem will report using Facebook less than those with moderate levels of self-esteem.

Individual Characteristics and Specific Types of Facebook Use

As we have noted, much of the existing literature examining self-esteem examines it in the context of overall Facebook use, and not the specific activities in which individuals engage when on the site, such as posting pictures and status updates. Recent work has suggested that future research should consider these activities, as it will provide researchers with a more complete picture of how individuals use social networking sites (see Ellison et al., 2011). As such, we next examine the relationships between self-esteem and engagement in three specific types of Facebook activities, similar to those of Ryan and Xenos (2011): active, text-based social contributions (e.g., posting a status update), active, visual-based social contributions (e.g., changing one's profile picture), and passive engagement with content (e.g., clicking on a link).

Considering self-affirmation theory, it is likely that those with moderate self-esteem will use the features of Facebook to engage in self-promotion, most likely by engaging in more active text- and visual-based social contributions. Theoretically, active Facebook behaviors provide more opportunities for selective self-presentation—as they allow the user to post positive information about the self to build up their store of material—through which to later engage in the sort of self-affirmation described by Toma (2013). For instance, those with moderate self-esteem may post a profile picture (active visual-based social contribution) or a status update (active text-based social contribution) designed to convey a perceived positive attribute of the self. Both the act of posting as well as later review of the posted material can be seen as self-affirming activities (see Toma, 2013). Indeed, individuals attained an enhanced sense of personal affirmation—when they reviewed content that they had previously created and shared with others—specifically to provide a positive message about themselves (Gonzales & Hancock, 2011). Therefore, active text-based and visual contributions, designed by the individual specifically to promote a positive self-image, will allow for self-affirmation. As such, those with moderate levels of self-esteem will engage in these activities, in order to build their self-esteem.

In contrast to those with moderate self-esteem, we argue that those low in self-esteem would not have the necessary truthful evidence to post on their Facebook profile, while those high in self-esteem would not be as interested in posting content designed to promote their lives in a positive light (see Toma, 2013). Thus, we expect these individuals to limit the frequency of positive, self-promotional Facebook posts on one's own profile page, due to individuals' implicit understanding that excessive self-promotion may irritate and alienate one's Facebook friends (Choi, Panek, Nardis, & Toma, 2015). Therefore, both of these groups, for different reasons, should be lower in terms of their active visual- and text-based social contributions on Facebook, compared to individuals with moderate levels of self-esteem. Conversely, we expect no relationship between self-esteem and the sort of passive engagement with content, including clicking on a link, liking a post, or adding friends/family. Such activities do not allow for future self-affirming behaviors in

comparison to active text- and visual-based social contributions. Therefore, we predict the following:

H₂: Controlling for gender, age, and network size, there will be a curvilinear relationship between self-esteem and (a) active text- and (b) visual-based social contributions, such that those low and high in self-esteem will report engaging in these activities less than those with moderate levels of self-esteem; (c) there will be no relationship between self-esteem and passive engagement.

Method

Participants and Procedure

Participants were Dutch adolescents between the ages of 12 and 18 ($M = 15.08$, $SD = 1.92$). During the spring of 2013, 337 individuals completed a survey. The majority of participants were recruited from two participating high schools in the Netherlands. Slightly more than half of the sample was male (51.9%).

To ensure that all age groups within the range of interest were sampled, classrooms within each grade were randomly asked to participate. Thus, participants were spread relatively equally across the age range of interest (12–18); each individual year makes up at least 10% of the final sample. Teachers were approached prior to data collection and asked to allow members of the research team to use a short period of class time to present a survey to students. Following approval from an ethics board, researchers sent a recruitment sheet home with students to provide parents with information about the study; parents could return the sheet if they wanted their child to opt out of participation. Students who did not have a parent opt out and who indicated their consent were allowed to complete the survey during class time, while those who did not wish to participate worked on other activities quietly. Participants were told that they could skip any questions that they did not feel like answering. Those who reported not having a Facebook account were instructed to skip the first section of questions, which asked about Facebook use and activities ($n = 66$; 21.5% of total sample).

Measures

Overall Facebook use was assessed by asking participants to think about how much time they spent actively engaged in Facebook use yesterday. The survey questionnaire made clear that active engagement referred to time that the individual actually spent using Facebook, and not time that they had Facebook open but running in the background. Since participants were recruited on different days of

the week, this overall use variable takes both weekdays and weekends into account. Participants reported spending an average of 27.80 ($SD = 30.44$) minutes on Facebook per day. Participants were also asked to report their number of Facebook friends ($M = 148.73$, $SD = 101.67$).

Facebook activities were measured by asking participants to report how many times in the previous day they had engaged in specific Facebook activities. These variables were sorted in the survey instrument based on their characteristics, similar to Ryan and Xenos (2011). A factor analysis with oblimin rotation indicated a three factor solution. Factors were extracted using unweighted least squares. Individual items were combined into one dimension if their respective factor loadings were greater than .60 on one dimension and lower than .40 on all of the other dimensions. The three dimensions are as follows: active, text-based social contributions ($M = .84$, $SD = 1.17$; $\alpha = .61$) consisted of writing a status update (factor loading = .62), posting messages (factor loading = .77), or responding to friends' posts (factor loading = .60). Active, visual-based social contributions ($M = .09$, $SD = .23$) consisted of creating a photo album (factor loading = .62) and changing one's profile picture (factor loading = .61). These two items were significantly correlated ($r [305] = .30$, $p < .001$). Last, passive engagement with content ($M = .91$, $SD = 1.24$; $\alpha = .60$), consisted of clicking on a link (factor loading = .70), liking a post (factor loading = .68), or adding friends/family (factor loading = .64). Given this method of measurement, there was something of a floor effect; many individuals did not report engaging in the specific activities the previous day. We will discuss the implications of this below.

Self-Esteem was measured using a 10-item Dutch version of the Rosenberg Self-Esteem Scale designed by Franck, De Raedt, Barbez, and Rosseel (2008). Sample items include "I feel that I have a number of good qualities," "I feel that I do not have much to feel proud of," "On the whole, I am satisfied with myself," and "I take a positive attitude toward myself" (1 = *strongly disagree*, 5 = *strongly agree*; $M = 3.47$, $SD = .57$, $\alpha = .79$).

Results

We first examined the correlations between the variables of interest; these can be found in Table 1. Next, we used a hierarchical multiple regression to test the relationship in H_1 , which predicted a curvilinear relationship between self-esteem and overall Facebook use. Self-esteem was mean-centered before the squared term was computed to help control for multicollinearity. The first block of control variables was significant ($R = .43$, $R^2 = .18$, $F(3, 286) = 21.52$, $p < .001$); number of Facebook friends ($\beta = .35$, $p < .001$) and age ($\beta = .24$, $p < .001$) were positively related to overall Facebook use. We added the mean-centered self-esteem variable to the model on block two, which resulted in a significant change in R^2 ($R = .45$, $\Delta R^2 = .02$, $\Delta F(1, 285) = 7.65$, $p = .01$). Specifically, self-esteem was negatively related to overall Facebook time ($\beta = -.16$, $p = .01$). Additionally, we included the mean-centered, squared self-esteem term on block three, which resulted in a

Table 1
Pearson Product-Moment Correlations between Independent and Dependent Variables

	1	2	3	4	5	6	7
1. Gender	–	–	–	–	–	–	–
2. Age	–.03	–	–	–	–	–	–
3. Facebook friends	–.08	.08	–	–	–	–	–
4. Self-Esteem	.23**	–.25**	.10	–	–	–	–
5. Overall Facebook use	–.07	.27**	.34**	–.16*	–	–	–
6. Text contribution	–.21**	.16*	.22**	–.12*	.45**	–	–
7. Visual contribution	–.08	.06	.16*	–.05	.20**	.25**	–
8. Passive engagement	–.09	–.12*	.27**	.08	.27**	.33**	.17*

Note. * indicates $p < .05$

** indicates $p < .01$

Table 2
Relationships between Self-Esteem and Overall Facebook Use (H_1)

	Block 1	Block 2	Block 3
Gender	–0.05	–0.02	–0.01
Age	0.24***	0.20***	0.19***
Facebook network size	0.32***	0.35***	0.35***
Self-Esteem	–	–0.16**	–0.16**
Self-Esteem * Self-Esteem	–	–	–0.12*
ΔR^2	0.18***	0.02**	0.02*
Total R^2			.22

Note. For gender, males = 1. Reported coefficients are standardized beta weights; negative squared term beta weights indicate inverse-U relationship

* indicates $p < .05$

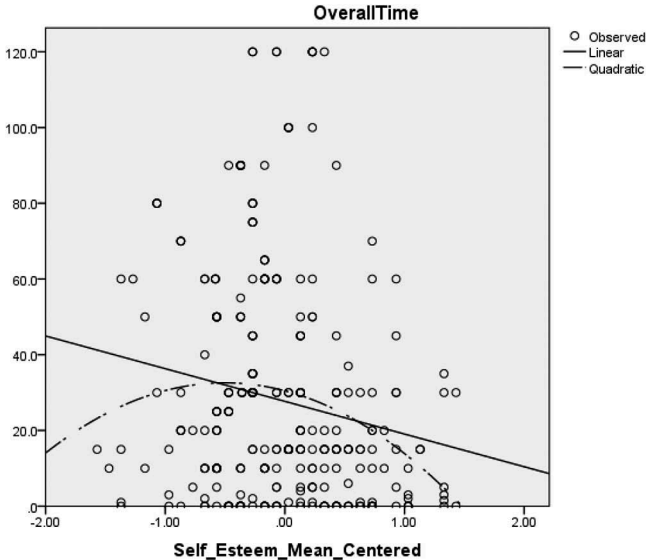
** indicates $p < .01$

*** indicates $p < .001$

significant addition to R^2 ($R = .47$, $\Delta R^2 = .02$, $\Delta F(1, 284) = 4.99$, $p = .03$). For a complete listing of relationships, please see Table 2. The relationship between the squared self-esteem term and overall Facebook use was negative ($\beta = -.12$, $p = .03$), suggesting that Facebook use was highest among those moderate in self-esteem levels (see Figure 1). Thus, these findings suggested that the relationship between Facebook use and self-esteem was curvilinear in nature, providing support for H_1 .

H_2 predicted a curvilinear relationship between self-esteem and (a) active text- and (b) active visual-based social contributions. We used three separate hierarchical multiple regressions to test H_{2a-c} . As above, self-esteem was mean-centered prior to entry in the regression model to help control for multicollinearity. Gender, age,

Figure 1
Curvilinear Relationship between Self-Esteem and Overall Facebook Use



and network size were entered as control variables on block one, which was significant ($R = .34, R^2 = .12, F(3, 281) = 12.35, p < .001$). Gender ($\beta = -.22, p < .001$), age ($\beta = .14, p = .02$) and network size ($\beta = .19, p < .001$) were related to active, text-based social interaction. The addition of self-esteem in block two did not result in a significant R^2 change ($R = .35, \Delta R^2 = .01, \Delta F(1, 280) = 2.64, p = n.s.$). The addition of the squared self-esteem term was significant, however ($R = .41, \Delta R^2 = .04, \Delta F(1, 279) = 12.30, p < .001; \beta = -.20, p < .001$). Once again, the beta coefficient was negative, suggesting that active, text-based social contribution was highest among those moderate in self-esteem levels. For a listing of all individual relationships, please see [Table 3](#). Thus, in support of H_{2a} , there was a curvilinear relationship between self-esteem and engaging in active, text-based social contribution activities on Facebook such that those moderate in self-esteem engaged in more active, text-based social contribution.

We used the same method detailed above to test the relationship between self-esteem and active, visual-based social contribution. For active, visual-based social interaction, the first block of control variables was significant ($R = .19, R^2 = .04, F(3, 281) = 3.51, p = .02$). Network size was positively related to posting active, visual-based social contribution ($\beta = .15, p = .02$). Self-esteem was not significant on step two ($R = .20, \Delta R^2 = .00, F(1, 280) = 1.07, p = n.s.$), but the addition of the squared

self-esteem term on step three was significant ($R = .23$, $\Delta R^2 = .02$, $F(1, 279) = 4.13$, $p = .04$; $\beta = -.12$, $p = .04$). Therefore, similar to active, text-based social contribution, there was a curvilinear relationship between self-esteem and active, visual-based social contribution on Facebook, with the highest levels occurring among those moderate in self-esteem. This finding supports H_{2b} . For a listing of all individual relationships, please see Table 3.

Lastly, we used the same model with passive engagement as the dependent variable. Gender, age, and network size were significant on block one ($R = .32$, $R^2 = .10$, $F(3, 281) = 10.89$, $p < .001$), with age ($\beta = -.16$, $p < .001$) and network size ($\beta = .27$, $p < .001$) emerging as positive predictors of passive engagement. There was no significant R^2 change when self-esteem was added on the second block ($R = .32$, $\Delta R^2 = .00$, $F(1, 280) = .18$, $p = \text{n.s.}$), or when the squared self-esteem term was entered on the third block ($R = .34$, $\Delta R^2 = .01$, $F(1, 279) = 2.50$, $p = \text{n.s.}$),

Table 3
Relationships between Self-Esteem and Specific Facebook Activities (H_{2a-c})

	<u>Text-based</u> contribution	<u>Visual-based</u> contribution	<u>Passive</u> engagement
Block 1			
Gender	-0.22***	-0.08	-0.08
Age	0.14*	0.06	-0.16**
Facebook network size	0.19***	0.15*	0.28***
ΔR^2	0.12***	0.04*	0.10***
Block 2			
Gender	-0.20***	-0.07	-0.09
Age	0.11*	0.05	-0.15**
Facebook network size	0.21***	0.15**	0.28***
Self-Esteem	-0.10	-0.07	0.03
ΔR^2	0.01	0.00	0.00
Block 3			
Gender	-0.19***	-0.07	-0.19
Age	0.08	0.03	-0.14*
Facebook network size	0.22***	0.16**	0.27***
Self-Esteem	-0.10*	-0.06	0.02
Self-Esteem * Self-Esteem	-0.20***	-0.12*	0.09
ΔR^2	0.04***	0.02*	0.01
Total R^2	0.17	0.06	0.11

Note. For gender, males = 1. Reported coefficients are standardized beta weights. Differences between ΔR^2 and total R^2 may be attributed to rounding. Negative squared term beta weights indicate inverse-U relationship

* indicates $p < .05$

** indicates $p < .01$

*** indicates $p < .001$

however. Thus, self-esteem was not related to passive engagement on Facebook; H_{2c} was supported. Please see [Table 3](#) for a listing of all relationships. In sum, self-esteem was curvilinearly related to active, text- and visual-based social contributions such that both were highest among those moderate in self-esteem; there was no relationship between self-esteem and passive engagement on Facebook.

Discussion

Overall, the results of the present study provide evidence for curvilinear relationships between self-esteem and overall Facebook use as well as active text- and visual-based social contributions among a moderate-sized sample of Dutch adolescents. These results help to clarify the nature of the relationship between self-esteem and Facebook use, adding nuance to researchers' understanding of the nature of the relationship between self-esteem and overall Facebook use as well as specific Facebook activities. Although some previous work has examined self-esteem and specific Facebook activities (see Mehdizadeh, 2010; Tazghini & Siedlecki, 2013), this is still relatively rare in the literature. Additionally, to our knowledge, no research has considered a curvilinear relationship between self-esteem and Facebook use.

Implications

Our examination of curvilinear relationships provides more information about the differential relationships between self-esteem and Facebook use. Recent work has suggested the importance of examining media effects and differential susceptibility variables, such as dispositional variables like self-esteem (Valkenburg & Peter, 2013). While other research has demonstrated that self-esteem plays an important role in social networking site use, the present study builds on this to demonstrate that varying levels of self-esteem are differentially related to social networking site use.

Specifically, it is possible that the curvilinear relationships uncovered in this article may clarify the mixed findings about the valence of the relationship between self-esteem and social networking site use. This may explain why researchers have detected both positive (Barker, 2010) and negative (Mehdizadeh, 2010) relationships in previous research, if the relationship is indeed curvilinear. These data underscore the importance of considering more complex relationships between variables, as doing so may uncover more nuanced results and enhance our understanding of media effects processes. The argument for complex relationships is bolstered by our second finding—a curvilinear relationship between self-esteem and specific Facebook activities. We recognize that the variance explained by the quadratic term in our models is generally small (2–4%), calling into question the practical and theoretical significance of the quadratic self-esteem variable. We argue, however, that this is still a meaningful finding when considering the mixed findings regarding the relationship between self-esteem and Facebook use present in the

extant literature, as well as the fact that the variance was explained by the additional of just one variable. Our goal in the present article was to determine whether a curvilinear relationship existed between self-esteem and Facebook use, thereby providing one explanation for the mixed findings in the literature, and not generally explain Dutch adolescents' Facebook use. We believe that considering, and demonstrating, a curvilinear relationship between self-esteem and Facebook use is a valuable addition to the literature, and hope that it spurs future research to consider linear and nonlinear relationships in the study of social media and other online communication.

The present research also adds evidence of the viability of using both self-affirmation theory and selective self-presentation as frameworks for studying the relationships between variables of well-being and Facebook use (see Toma, 2013; Toma & Hancock, 2013). Results suggest that individuals with moderate levels of self-esteem engage in active text- and visual-based social contribution, potentially in an effort to be seen and to display the important things going on in their lives. It is likely that these posts may subsequently be reviewed by their creators and thereby used to affirm the positive aspects of the self. Although we did not measure passive engagement with one's own Facebook page in the current study, the results of Toma (2013) suggest that individuals may turn to their Facebook profile, where they have posted positive text and visual content, in order to self-affirm their own worth. It is clear that this relationship is dynamic: as demonstrated here, self-esteem is related to Facebook use, but it is additionally likely that Facebook use over time relates to changes in initial self-esteem as a function of self-affirming behaviors. Once again, we believe that self-affirmation theory is useful for both predicting the initial relationship between self-esteem and the resulting reciprocal relationship between Facebook use and self-esteem (see Toma, 2013).

Our results also contribute insights about the relationship between individuals' levels of self-esteem and engagement in specific Facebook practices. Although some recent research has examined specific practices (e.g., Ellison, Vitak, Gray, & Lampe, 2014; Mehdizadeh, 2010; Tazghini & Siedlecki, 2013; Yang & Brown, 2013), this literature remains inconclusive about the nature of the relationship between these specific practices and self-esteem due to differences in measurement and even the conceptualization of what constitutes "Facebook activity." In the context of self-esteem, however, the present study does demonstrate how self-esteem is differentially and curvilinearly related to certain categories of Facebook activities. Understanding these differences can help researchers to further probe how dispositional variables influence users' engagement with social media. Since Facebook and other social network sites provide users with a growing number of different social tools, future research must continue to examine specific practices rather than simply examining overall use.

In sum, we believe that the present research adds to the literature in three ways. First, our results help clarify the relationship between self-esteem and Facebook use among adolescents by demonstrating a curvilinear relationship, which may in part account for the previous mixed results concerning linear relationships. Second, our

evidence highlights the relevance of self-affirmation theory to the continued study of the relationship between self-esteem and Facebook use. Finally, we add nuance to researchers' understanding of adolescents' online activities by examining the relationship between self-esteem and specific Facebook activities.

Strengths, Limitations, and Directions for Future Research

This study does have certain limitations that must be discussed. First, this study relies on cross-sectional data; thus, we cannot assure the directionality of the relationships presented here. This brings up an important opportunity for future research. In the current body of literature on self-esteem and social networking site use, some studies use social networking site use as the dependent variable (e.g., Barker, 2010), as we have done here, and others examine the influence of use on self-esteem (e.g., Niera & Barber, 2014). While the present study may begin clarifying the nature of the relationship between self-esteem and Facebook use, more work is needed to fully understand the reciprocal nature of the relationships. It is likely that individuals' self-esteem influences their use of the site, which in turn influences their self-esteem. Work that better investigates the transactional nature of the media effects process will be of great benefit to researchers (see Valkenburg & Peter, 2013).

Following the call of Ellison and colleagues (2011), we offered an initial attempt to understand the relationship between variables of well-being and *specific* Facebook activities. Unfortunately, we were not able to examine the exact tenor of these activities, as we do not know the content of participants' status updates, or the nature of their profile pictures. Additionally, our method of asking about these specific activities created a floor effect; many individuals reported not engaging in these activities the day prior to data collection. We did not measure adolescents' general browsing behaviors on Facebook since pilot tests indicated that adolescents had difficulty validly reporting on how many times they browsed Facebook content the day prior. Considering the work of Toma (2013), which indicated that browsing one's own Facebook profile was a self-affirming behavior, it is likely that passive browsing of one's own profile would have been related to self-esteem, while the items included in our passive engagement with content scale would not. This indicates differences in relationships within passive engagement. Future research could also consider nuance within different categories of Facebook activities. Despite these limitations, however, we did detect a number of significant relationships that shed light on the relationships between self-esteem and various activities on Facebook.

Overall, the present study serves as an initial attempt to integrate the previous findings on the nature of the relationships between self-esteem and Facebook use through selective self-presentation and self-affirmation theory. By considering a possible curvilinear relationship between these variables, the present study offers nuance to the extant literature by indicating how individual characteristics may have differential impacts on Facebook use and activities. Additionally, while many previous studies

have examined overall time spent on Facebook, we add depth to the literature by examining specific Facebook types of activities. Our work suggests that studying these specific activities may provide a richer understanding of the relationship between self-esteem and adolescents' Facebook use, with implications for researchers' understanding of the media effects process of adolescent social networking site use.

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Expanding the Unidirectional View on Parental Television Mediation: Children's Guidance of Their Parent's Television Use

Sara Nelissen and Jan Van den Bulck

Compared to parental mediation research, much less is known about how children influence and guide their parents' media use. This study examined whether children also mediate the television use of their parents. Measures of an existing television mediation scale were reversed to the perspective of the child guiding the parent's television use. A sample of 187 parent-child dyads completed a cross-sectional survey in Flanders (Belgium). Factor analyses showed that the original subscales were reproduced with high internal validity. Both parents and children had congruent views about children's television mediation; television mediation and children's restrictive mediation was positively associated with conflict in the family.

Since the early days of communication sciences and media studies, scholars have been interested in the influence of media on family communication (e.g., Lull, 1980). There has been a particular interest in the relationship between media use and parent-child interactions, with extensive research into the degree to which parents guide and influence their children's media use. There is a great deal of literature on parental guidance (i.e., *parental mediation*) of children's television and Internet use (e.g., Livingstone & Helsper, 2008; Nathanson, 1999; Nathanson, 2001; Nikken & Jansz, 2014; Schaan & Melzer, 2015; Valkenburg, Krccmar, Peeters, & Marseille, 1999). However, whether and how children influence their parents' media use remains relatively uncharted, although, it seems likely that children also guide and influence their parents' media use.

Children are active agents, just like their parents (Kuczynski, 2003). Therefore, the first aim of this study is to investigate whether children also mediate the television use of their parents. The second aim is to compare the child's and parent's perspective on this mediation. As a final aim, this study wants to explore whether this

Sara Nelissen (M.Sc., KU Leuven) is a doctoral candidate at the Leuven School for Mass Communication Research, Belgium. Her research interests include media use in the family context, parent-child influences and interactions concerning media use and health.

Jan Van den Bulck (Ph.D., D.Sc.) is a professor of communication at the Department of Communication Studies, at the University of Michigan, USA. He is interested in the effects of the media on topics regarding violence and health, with a special interest in sleep phenomena.

potential mediation behavior of children is related to parent-child conflict concerning television use. It should be noted that in this study, the term "child" is conceptualized as being the child in a family, and it does not necessarily refer to a developmental stage. The sample of children used in this study were adolescents, aged 12 to 18 years.

Theories of Bidirectional Influences

In the traditional, unidirectional, view of socialization theory a children internalize (Parsons, 1951) social norms, roles, beliefs, and values of the society they live in from their parents, teachers, siblings, mass media, and others. In this perspective, parents are commonly identified as the primary agents in the socialization of their children (Grusec & Davidov, 2007; Kuczynski & De Mol, 2015) whereas children are viewed as passive recipients of parental influence (Maccoby, 2003; Van den Bergh, 1998). However, as early as 1968, Bell argued that this traditional view is too narrow, and that children too influence their parents, which he called *the child effect*. According to Kuczynski and De Mol (2015), literature about "the causal nature of social guidance in socialization tended to be linear and deterministic" (p. 323) before Bell's statement (1968), which these authors defined as a turning point for socialization theory. Following this idea of children influencing their parents, research in parent-child relationships, family socialization processes, and child development have started applying a bidirectional perspective, such as the transactional model (Sameroff, 1975) and social relational theory (Kuczynski, 2003). Bidirectionality acknowledges equal agency and both the parent-to-child and the child-to-parent directions of influence and this generates a complex reciprocal process with co-occurrence of influences going in both directions (Kuczynski, 2003).

De Mol and Buisse (2008a) have noted that studies in different fields are increasingly examining the child as an active agent. For example, developmental psychology (Crouter & Booth, 2003; Kuczynski, 2003), parent-child relationships and interactions (Ambert, 2001; Lollis & Kuczynski, 1997; Maccoby, 2003; Pettit & Lollis, 1997), and family therapy (De Mol & Buisse, 2008a, 2008b) are all examining parent-child bidirectionality. In communication and media research, the influence that children have on their parents is gradually gaining more attention as well.

Child Effects in Media and Communication Research

Nevertheless, child effects are still an undervalued approach in the study of how children and parents interact with media (Van den Bulck, Custers, & Nelissen, 2016; Van den Bulck & Van den Bergh, 2005). Most studies on child effects in the field of communication sciences are investigating child effects on media adoption. For example, Van Rompaey, Roe, and Struys (2002) found that in many families the adoption of the Internet was dependent upon whether the parents believed it would

benefit or hurt their children. Also Selwyn (2004) found that children influenced their parents' media adoption and use of computers. More recently, children have been shown to influence the introduction of new media hardware innovations such as tablets, social media, or smartphones (Correa, Straubhaar, Spence, & Chen, 2013; d'Haenens & Vandoninck, 2012). Katz (2010) described children as the media *brokers* of their family, who help their parents with their connection to and understanding of (new) communication technologies. Consistent with this, Correa (2014) found that children influenced the use of their parents' technology use, and called this the *bottom-up technology transmission process*.

It is probably no coincidence that the child effect perspective emerges most in research on new media adoption because children are enthusiastic early adopters of new developments in technology and content. The media landscape is continuously changing, with new media devices entering the market place regularly. This has led to the privatization of media. Television nowadays can be viewed on several (mobile) platforms, and is not the family-centered activity that it once was (Livingstone, 2007). Therefore, a substantial amount of children and adolescents' media use happens without the presence of any parents (Roberts, 2000). Bovill and Livingstone (2001) referred to *bedroom culture* to describe this privatization in the media use of children and adolescents. Nevertheless, investigating whether children influence traditional media use, such as the television viewing of their parents remains a path worth pursuing for several reasons. First, the television remains a dominant and popular medium that still attracts large audiences (Nielsen, 2014; Roberts, 2000). Second, while children may introduce their parents to new media and content, and teach them to use new media, once past this stage, these media are probably used more individually. Television, although used more individually with the new media platforms, still remains a family activity for many families (Rideout & Hamel, 2006). One study found that when adolescents were watching television, parents were triggered to do likewise (Westerik, Renckstorf, Lammers, & Wester, 2007), which is an indication of a child effect and of television as a social activity. Moreover, research has shown that television has a central place in the living room (Bleakley, Vaala, Jordan, & Romer, 2014). Therefore, television has a strong social component and it stimulates family communication (Lull, 1980). Even three decades after Lull's observation, survey research still observes high scores on social coviewing of television (e.g., Böcking & Böcking, 2009).

Guidance of Media Use

Parental mediation is a concept that has been the object of research since the early 80s (Bybee, Robinson, & Turov, 1982). A vast amount of research examined television mediation (e.g., Barkin et al., 2006; Nathanson, 1999, 2001; Schaan & Melzer, 2015; Valkenburg et al., 1999), but other media such as Internet and videogames have been studied as well (e.g., Livingstone & Helsper,

2008; Nikken & Jansz, 2006, 2014; Schaan & Melzer, 2015; Zaman, Nouwen, Vanattenhoven, de Ferrerre, & Van Looy, 2016).

Most research has identified three common ways in which parents guide children's television use (Valkenburg et al., 1999). *Restrictive mediation* occurs when parents are controlling their children's media use by asserting media rules. This includes attempting to control how much, when, and what a child views (Gentile, Nathanson, Rasmussen, Reimer, & Walsh, 2012). *Active mediation* occurs when parents give additional information to the child about the media content they see on television and convey negative evaluations of the programs their children are viewing. Finally, *social coviewing* is watching television together without actively engaging in discussions about what is seen. Social coviewing suggests that parents may join children for a shared social experience.

Although most studies have analyzed the parents' perspective on their mediation of children's television viewing, there is also research on children's experiences of parental mediation (e.g., Gentile et al., 2012; Haddon, 2015; Valkenburg, Piotrowski, Hermanns, & de Leeuw, 2013; Van den Bulck & Van den Bergh, 2000). These studies acknowledge the fact that children are active agents who interpret their parent's interactions and behaviors. As Schaan and Melzer (2015) state, "children are not passive recipients of parental mediation, but directly feed back onto it" (p. 61). A few authors have discussed the possibility of a "reversed" mediation: the extent to which children guide the media use of their parents (Van den Bulck & Van den Bergh, 2005; Zaman et al., 2016). Also Clark (2011) stated that the parental mediation theory should include a fourth strategy that acknowledges the child's agency, which she defined as *participatory learning*. Building further on this study, a qualitative study of parental mediation by Zaman and colleagues (2016) has found that children initiated instructive discussions and negotiations about media and concluded that future research should further investigate how these two-way processes work.

This study refers to *children's television mediation* as a term describing children's guidance of their parents' television use. In the child development and psychology literature it has been suggested that considering children and their parents as equal agents should encourage researchers to ask questions about their influence in a parallel way (Kuczynski, 2003; Kuczynski & De Mol, 2015). Based on the parental mediation literature and as suggested by Van den Bulck and Van den Bergh (2005), *children's restrictive mediation* would then occur when a child attempts to stop or reduce the consumption of certain types of content by their parents. *Children's active mediation* occurs when children steer their parents' media use by commenting on the contents of those media. Finally, *children's social coviewing* occurs when children join parents to use media together.

The motivations why children mediate parent's media use will probably differ from the motivations that parents have. Children might try to convince their parents to stop watching a particular type of television program because they do not like it (i.e., restrictive mediation). This might also include trying to limit the frequency of viewing, for instance to obtain more viewing time themselves or

because they feel their parents watch too much television. They can also try to teach parents about their culture and see media guidance more as an informational process (i.e., active mediation). For example, by labelling a certain television show as “for old people,” children might try to discourage their parents from watching it. Children might also use media together with their parents (i.e., social coviewing) as a family activity, or for a shared intimate experience (Oliphant & Kuczynski, 2011). Finally, it is possible that children mediate their parents’ television use to manifest their increased autonomy and to distance themselves from parental authority concerning television use. According to the social domain theory (Smetana, 1995), children entering the stage of adolescence have an increased need for autonomy. Parental authority in their personal domain (such as television viewing) becomes more illegitimate, causing parent-child conflicts (Smetana & Asquith, 1994).

Media Guidance and Parent-Child Conflict

The literature on parental mediation also showed evidence of a link to parent-child conflicts. Van den Bulck and Van den Bergh (2000) found that while restrictive and active parental mediation were associated with more parent-child conflict, social coviewing was related to less parent-child conflict. Also Valkenburg and colleagues (2013) found that their perceived parental mediation scale correlated with family conflict. More specifically, their controlling active and controlling restrictive mediation subscales were positively correlated with family conflict, while their autonomy-supportive active and autonomy-supportive restrictive mediation subscales were negatively correlated with family conflict.

Objectives of the Study

Starting from a child as active agent perspective, this study wants to expand the unidirectional parental mediation literature. Valkenburg and colleagues (2013) have noticed that most studies on parental mediation and its predictors and effects look at children under 12 years old. One possible reason they give for this is that researchers think that parents have less influence on their children when they become adolescents. When children enter adolescence, parental mediation decreases (Gentile et al., 2012; Nathanson, 2001), while these children become more autonomous and less open to parental authority concerning their media use (Smetana & Asquith, 1994). However, during this adolescence stage, it could be more interesting to examine children’s mediation of their parents’ media use. Additionally, this age range allows using the same questionnaires for parent and child.

De Mol and Buysse (2008a) claimed that there is not much research that has investigated the perspective of the child him/herself regarding his/her influence on

his/her parents. Moreover, in the field of media use and parental mediation, parents and their children do not always report the same frequencies (e.g., Austin, 1993; Byrne & Lee, 2011; Koolstra & Lucassen, 2004). Therefore, the central research questions of this study are:

RQ₁: Does children's mediation of parental television viewing exist as a phenomenon?

RQ₂: Do parents and children report differently about children's television mediation?

Previous research (Valkenburg et al., 2013; Van den Bulck & Van den Bergh, 2000) has shown that parental television mediation was related to parent-child conflict. It seems plausible that there is also a link between children's television mediation and conflicts. Based on the found association in previous studies, the following hypotheses are proposed:

H₁: Children's restrictive mediation is related to more parent-child television conflict.

H₂: Children's active mediation is related to less parent-child television conflict.

H₃: Children's social coviewing is related to less parent-child television conflict.

Method

Data Collection

An Internet questionnaire, the Family and Media (FAME) study, was distributed to a convenience sample of 187 parent-child dyads ($N = 374$) in 2015. The study was approved by the Institutional Review Board of Human Sciences of the University of Leuven. Parents and children from the same household were questioned. Child respondents for this cross-sectional survey were selected through a school system. Research invitations were handed out in several secondary schools in Flanders (Belgium) and were addressed to the parents. These invitations contained information about the study, the URL to reach the survey, and information about confidentiality. Parents were asked to fill in the first part of the survey, and their child the second part. Parents and children completed their respective parts individually and separately. Parents with more than one child aged 12 to 18, were asked to let the child whose birthday came first fill in the second part of the survey. Active consent was obtained from the parents for themselves and for their children, and from the children for the child part of the survey.

Measures

Demographics. Both parents and children were asked what their gender was (“male/boy” = 0 and “female/girl” = 1). Date of birth was recoded into a numeric variable with the current age of both the parent and their child. The highest educational degree of the parents was asked (ranging from *no high school degree* = 0 to *university degree* = 5).

Children’s Television Mediation. The television mediation scale of Valkenburg et al. (1999) was adapted to reflect the child as mediator of the television use of their parent. This scale contained 5 items for children’s active mediation, 5 items for children’s restrictive mediation and 5 items for children’s social coviewing. These items are shown in Table 1. Similar questions were presented to the parents and to their child. Answering categories were a 5-point Likert scale, ranging from (*almost never* = 0 to (*almost always* = 4).

Parent-Child General Conflict. Following the study of Van den Bulck and Van den Bergh (2000), parents and their child were asked about their perceptions of parent-child general conflict: “my kids and I/my parents and I are mad at each other,” “my kids and I/my parents and I yell at each other,” “my kids and I/my parents and I have a serious fight.” Response categories ranged from (*almost never* = 0 to (*almost always* = 4. Principal components factor analysis with oblique rotation generated one factor for the parent’s answers, which explained 72.77% of the variation, with factor loadings from 0.84 to 0.87 (Cronbach α = 0.81, M = 0.92, SD = 0.58). For the children’s answers, one factor was generated, which explained 76.60% of the variance and with factor loadings ranging from 0.86 to 0.89 (Cronbach α = 0.85, M = 0.90, SD = 0.73).

Parent-Child Television Conflict. Following a study of Mesch (2006), the FAME survey included a 5-point Likert-type scale, ranging from (*almost never* = 0 to (*almost always* = 4 to measure frequency of parent-child disagreements about television use. Parent’s scores were higher (M = 0.87, SD = 0.68) than those of their child (M = 0.71, SD = 0.68) and were significantly different ($t(177) = 2.67$, $p < 0.01$).

Data Analyses

All data analyses were conducted with the Statistical Package for Social Sciences (version 22, SPSS Inc., Chicago, IL, US). In order to investigate RQ₁, questions from the television mediation scale of Valkenburg et al. (1999) were asked in a parallel way to the children and to the parents, about the influence of the children. Exploratory factor analyses and reliability analyses were performed to examine whether the new scale reproduced the children’s mediation subscales.

Table 1
Children's Television Mediation Questioning* for Parent and Child Reports

Parent's questions	Children's questions
Children's active mediation	
How often does your child give an explanation to you about what you see on TV?	How often do you give an explanation to your parents about what they see on TV?
How often does your child explain to you why something on TV is good?	How often do you explain to your parents why something on TV is good?
How often does your child explain to you why something on TV is bad?	How often do you explain to your parents why something on TV is bad?
How often does your child explain to you the motives of TV characters?	How often do you explain to your parents the motives of TV characters?
How often does your child explain to you what something on TV means	How often do you explain to your parents what something on TV means?
Children's restrictive mediation	
How often does your child tell you to turn off a certain program because it wants to see something else?	How often do you ask your parents to turn off a certain program because you want to see something else?
How often do you want to watch TV on specific moments but you can't because of your child?	How often do you try to influence the TV viewing hours of your parents?
How often does your child says to you that you should not watch a certain program?	How often do you tell your parents that they should not watch a certain program?
How often is your TV viewing amount restricted because your children are viewing?	How often can your parents not view TV because you are viewing?
How often does your child specify in advance the programs that will be watched	How often do you specify to your parents in advance the programs that will be watched?
Children's social coviewing	
How often does your child watch together with you because you both like a program?	How often do you watch together with your parents because you both like a program?
How often does your child watch together with you to TV because of a common interest	How often do you watch together with your parents to TV because of a common interest?
How often does your child watch TV with you just for fun?	How often do you watch TV with your parents, just for the fun?
How often do you and your child watch your favorite program together?	How often do you watch your favorite program together with your parents?
How often does your child laughs together with you about something fun you see on TV?	How often do you laugh together with your parents about something fun you see on TV?

*Adapted from the television mediation scale of Valkenburg et al. (1999).

Because this study examined the answers of parents and their child (RQ₂), a standard dyadic design (Kenny, Kashy, & Cook, 2006) was used. Measurement of nonindependence is the first step in dyadic analyses (Kenny et al., 2006). For most inferential statistics, independence is a key assumption. However, because these parents and children come from the same households, it is possible (and probable) that their scores are more similar to each other than the scores of non-related individuals would be (Kenny et al., 2006). In distinguishable dyads, such as parent-child dyads (Kenny et al., 2006), the Pearson correlation coefficient is calculated to determine the nonindependence level. If the coefficient is large enough, then the dyads are the unit of analysis. Based on this rule, it was concluded that there was enough nonindependence between the answers of the parents and children for all the variables of interest, due to sufficiently high coefficients between these answers. Cohen (1988) defined .30 as a medium correlation and .50 as a high correlation. Because the same questions were asked of parents and their children about the influence that the child had on the parent's television use and about the conflict variables, these items were averaged per dyad (consistent with the studies of Correa, 2014; Nikken & Jansz, 2006; Schaan & Melzer, 2015). In order to compare the reports of parents and their children on the subscales of children's television behavior (RQ₂), paired samples T-tests were generated.

Finally, to investigate whether children's television mediation and parent-child television conflict were associated (H₁-H₃), multiple hierarchical regression analyses were calculated for the parent's, children's and dyadic reports, with parent-child television conflict as a dependent construct. In these regression models, the independent variables were entered in separate blocks: (1) control variables such as socio-demographic variables of parent and child (gender, age, educational degree) and parent-child general conflict; and (2) the three children's television mediation subscales. By examining the correlation matrix between the items and the variance inflation factors, this study controlled for multicollinearity. Based on these observations, there were no indications for multicollinearity.

Results

Sample

Of the subsample of parents, 73.08% were female. The parents had a mean age of 45.78 years (*SD* = 5.51). In terms of educational degree, 76.79% of the parents that filled in the survey had a degree beyond K12, 18.78% had a high school degree, and 4.42% of the parents had no high school degree. In the sample of children, 56.45% were girls. These children had an average age of 14.89 year (*SD* = 1.70).

Children's Television Mediation

Principal components factor analyses with oblique rotations were performed separately on the 15 items for the parents and on the 15 items for the children. Addressing RQ₁ in both parent and child reports, a three-factor solution was generated with these anticipated factors: Children's restrictive mediation (CRM), children's active mediation (CAM) and children's social coviewing (CSC). The factor loadings for these solutions are presented in Table 2. For the parents, the three factors explained 72.57% of the variance, and the factor loadings ranged from 0.71 to 0.93. For the children, the three factors combined explained 70.67% of the variance, with factor loadings from 0.57 to 0.93. The internal validity of these three subscales was high, both for parents ($\alpha_{CRM} = 0.86$, $\alpha_{CAM} = 0.90$, $\alpha_{CSC} = 0.92$) as for children ($\alpha_{CRM} = 0.81$, $\alpha_{CAM} = 0.93$, $\alpha_{CSC} = 0.91$).

Table 2
Pattern Matrix for Children's Television Mediation Scale (15 Items) of Parent and Child Reports

Components	Factor					
	1		2		3	
	P	C	P	C	P	C
Reversed active mediation						
Give explanation to what is seen on TV	0.79	0.90	0.05	0.06	0.14	0.07
Explain what is good on TV	0.90	0.93	0.00	0.01	0.02	0.01
Explain what is bad on TV	0.89	0.88	0.06	0.04	0.01	0.05
Explains motives on TV	0.80	0.83	0.04	0.05	0.08	0.05
Explains the meaning of something on TV	0.80	0.82	0.06	0.06	0.14	0.08
Reversed restrictive mediation						
Ask to turn TV off	0.03	0.00	0.10	0.02	0.77	0.77
Influences TV viewing	0.13	0.07	0.03	0.04	0.90	0.74
Should not watch certain TV programs	0.25	0.21	0.22	0.13	0.71	0.68
Restrict TV viewing time	0.12	0.13	0.01	0.01	0.87	0.84
Specify TV programs in advance	0.14	0.18	0.14	0.25	0.74	0.57
Reversed social coviewing						
Watch because both like TV program	0.04	0.06	0.92	0.92	0.02	0.02
Watch because common interest	0.05	0.05	0.87	0.89	0.04	0.02
Watch just for fun	0.03	0.01	0.81	0.83	0.03	0.09
Watch favorite program	0.11	0.14	0.88	0.80	0.09	0.18
Laugh together	0.07	0.17	0.87	0.83	0.02	0.09
Self-values (eigen values)	5.17	5.32	3.39	3.62	2.34	1.65
Variance explained (%)	34.44	35.49	22.56	24.15	15.57	11.03

Note. Factor loadings > 0.40 are bold.

P = parent, C = child.

To answer RQ₂, descriptive statistics associated with the three subscales (ranging from 0 to 4) were computed; results show relatively similar reports for the parents and their children. For both groups, children's social coviewing was the activity with the highest mean ($M_{parent} = 2.30$, $SD_{parent} = 0.69$, $M_{child} = 2.26$, $SD_{child} = 0.75$). For children's restrictive mediation, the reports of parents and children were the same ($M_{parent} = 1.39$, $SD_{parent} = 0.76$, $M_{child} = 1.40$, $SD_{child} = 0.75$). Only for children's active mediation, a marginal difference was found in the mean values of parents and their children ($M_{parent} = 1.46$, $SD_{parent} = 0.74$, $M_{child} = 1.27$, $SD_{child} = 0.77$). The paired samples T-test showed a significant difference for children's active mediation between the reports of parents and children ($t(176) = 3.28$, $p < 0.05$), while children's restrictive mediation ($t(176) = -0.12$, $p = 0.902$) and children's social coviewing ($t(174) = 0.82$, $p = 0.416$) were not significantly different for parents and their child.

The Pearson correlation coefficients that measure the nonindependence for all the variables of both parents and their child are presented in Table 3. It is worth noting that the older the child was, the more the child reported active mediation of the parent's television use ($r = 0.15$, $p < 0.05$) and less social coviewing ($r = -0.20$, $p < 0.01$).

The Association between Children's Television Mediation and Parent-Child Television Conflict

The regression analyses were conducted for parent, child, and dyadic reports separately. The control variables had little predictive power in these models. In the parent and dyadic models, gender of the child was a positive predictor of parent-child television conflict, while age was a negative predictor. This indicates that in general, girls and younger children had more conflicts with their parents about television.

In all three models (see Table 4), general parent-child conflict and children's restrictive television mediation were significant and positive predictors of parent-child television conflict. Families who reported more general conflict reported more television-related conflict. Also, the more children tried to restrict their parent's television viewing, the more parent-child television conflict there was; this is a response that was found in both parent and child reports. Children's active mediation and social coviewing were not significantly related to television conflict. H₁ was thus confirmed, while H₂ and H₃ were not. In all models, both blocks contributed significantly to the final model. The dyadic model explained more variance ($R^2 = 0.53$) than the parent ($R^2 = 0.39$) and the child ($R^2 = 0.35$) models separately.

Discussion

Several research domains have acknowledged the fact that children are active agents and position child effects as part of bidirectional influence processes in the dynamic between parents and children. This study builds further on the parental

Table 3
Correlation Matrix of Parent and Child Variables to Measure Nonindependence

Correlation Matrix	Active mediation parent		Restrictive mediation parent		Social coviewing parent		Television conflict parent		General conflict parent		Active mediation child		Restrictive mediation child		Social coviewing child		Television conflict child		General conflict child		
Active mediation parent	-																				
Restrictive mediation parent	0.30***	-																			
Social coviewing parent	0.27***	0.08	-																		
Television conflict parent	0.09	0.44***	0.01	-																	
General conflict parent	-0.05	0.11	-0.04	0.37***	-																
Active mediation child	0.49***	0.39***	0.06	0.15*	-0.04	-															
Restrictive mediation child	0.29***	0.67***	0.05	0.21***	-0.06	0.53***	-														
Social coviewing child	0.13	-0.01	0.67***	0.07	-0.07	0.09	0.09	-													
Television conflict child	0.10	0.37***	0.04	0.32***	0.23**	0.29***	0.42***	-0.01	-												
General conflict child	-0.06	0.09	-0.10	0.27***	0.47***	0.00	0.08	-0.17*	0.43***	-											

Note. correlations are zero-order correlations.

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

*** . Correlation is significant at the 0.001 level (2-tailed).

Table 4
Hierarchical Regression Models with Parent-Child Television Conflict as Dependent Variable

	Parent reports		Child reports		Dyadic reports	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Block 1		17.6%***		18.7%***		23.3%***
Gender parent	0.01		0.05		0.00	
Gender child	0.19**		0.07		0.14*	
Degree parent	0.03		0.00		0.03	
Age parent	-0.11		-0.05		-0.10	
Age child	-0.19**		-0.05		-0.16*	
General conflict	0.29***		0.36***		0.38***	
Block 2		21.8%***		16.7%***		29.7%***
Children's active mediation	0.01		0.07		-0.02	
Children's restrictive mediation	0.49***		0.39**		0.58***	
Children's social coviewing	-0.09		-0.08		-0.07	

Note. $n = 187$ parent-child dyads. Standardized regression coefficients (betas) are used for all blocks.

Parent reports: $R^2 = 0.39$, $F(9,152) = 11.01$, $p < 0.001$

Child reports: $R^2 = 0.35$, $F(9,148) = 8.98$, $p < 0.001$

Dyadic reports: $R^2 = 0.53$, $F(9,144) = 18.09$, $p < 0.001$

media mediation literature and provides evidence for the phenomenon of children's mediation of television viewing. In other words, children also guide the television viewing of their parents (RQ₁). Parallel questions (Kuczynski & De Mol, 2015) of parental television mediation were asked about children's television mediation. Exploratory factor analyses generated three subscales of the children's television mediation scale with high internal validity, and also when looking at the descriptive values, evidence of children's television mediation was found. In comparison with previous studies (Böcking & Böcking, 2009; Nathanson, 2001), the means of children's restrictive and active mediation subscales, and of children's social coviewing subscale were relatively similar to those of the original scale. This suggests that it is meaningful to consider children as active agents who mediate their parents' television use. In other areas of social sciences, research has been examining bidirectionality for decades (e.g., Maccoby & Martin, 1983), and as this study shows, this could also be a valuable approach for traditional and new media research.

Several studies in the literature reported differences in parent and child reports concerning their media use and parental guidance (Austin, 1993; Byrne & Lee, 2011;

Koolstra & Lucasson, 2004). This could be a result of social desirability, as it seems that parents often report higher monitoring of the media use of their child (Gentile et al., 2012). Alternatively, De Mol and Buysse (2008b) argued that both parents and children find it difficult to talk about children's influence despite reporting that children's influence is massive in their daily lives. In this study, the parent-child dyads gave very similar answers on the children's mediation scale (RQ₂), which is consistent with a study of Nikken and Jansz (2006) concerning parental Internet mediation. A significant difference between parent and child reports was found in the reporting of television conflict, with parents giving a higher score than their children. However, with the measures presented in the FAME questionnaire it was not possible to rule out social desirability effects in parental response patterns.

Previous studies on parental television mediation investigated the relationship with parent-child conflicts (Valkenburg et al., 2013; Van den Bulck & Van den Bergh, 2000). Consistent with these studies, this study found a positive relationship between children's restrictive mediation and parent-child television conflict (H₁). However, the results did not provide support for the hypothesized negative relationship between children's active mediation (H₂) and social coviewing (H₃) on the one hand, and parent-child television conflicts on the other hand. The fact that children's restrictive mediation and television conflict are positively related could be because parents get annoyed by their children trying to restrict their viewing time. Alternatively, they could perceive this as a threat to their authority, which could therefore lead to parent-child arguments. Previous research already showed that more conflicts occur when the child is being perceived as the media expert in the household (Mesch, 2006). Additionally, it should be noted that restrictive mediation is more confrontational and could therefore result in conflicts. The fact that active mediation and social coviewing were not related to conflict could be because these strategies are less confrontational than restrictive mediation.

The socio-demographic variables in these regression models had surprisingly little predictive power. This was inconsistent with previous research that stated that especially women and individuals with lower sociodemographic status were most influenced by children in their media use (Correa, 2014). It has to be noted, though, that the data were skewed in that they overrepresented women and people with a higher level of education (Statistics Belgium, 2015). This study looked at the parent, child, and dyadic reports. Maccoby and Martin (1983) have stated that to minimize incorrect inferences, it is beneficial to use several data sources (i.e., the parent and the child). Also Correa (2014) has stated that the validity and reliability of results increase as dyadic analyses use two observations to investigate one construct.

In summary, this study provided insights in the behavioral influence of children on parents' television viewing. This has theoretical implications for the parental mediation literature and broader media studies literature that are almost always unidirectional. As this study showed, parent-child interactions about media should be viewed as a bidirectional process and communication and media studies should incorporate these child effects and bidirectional processes.

Limitations and Directions for Future Research

There are some limitations of this study that should be taken into account. First, the cross-sectional nature and the convenience sample do not allow generalizing the conclusions for the general population of parents and their children. Causal conclusions cannot be drawn from these data. In order to generate causal conclusions, it could be interesting to investigate children's television mediation in a longitudinal study. Longitudinal research would also help to determine whether this behavior changes when children grow older. Even though the age differences among the various children in our sample were limited, media research should not rule out the potential presence of cohort effects. Tablet computers, for instance, were introduced and adopted by a large part of the population in a matter of months (Van den Bulck, 2015). There is a distinct possibility that a 16-year-old today differs in media use from a 14-year-old, not because of developmental differences, but because part of their media history looks different. Another limitation is that the results presented in this study did not take into account cultural context. All parent-child interactions are part of a larger socio-cultural context, especially for child influences. Culture is an important source for children's agency and power (Kuczynski, 2003).

A methodological limitation is that this study made use of dyadic data by using the averages of parent and child reports. This is a common method when analyzing dyadic data, but Tambling, Johnson, and Johnson (2011) pointed out some conceptual and methodological problems. Finally, this study only investigated the relationship between children's television mediation and conflict. However, different forms of children's television mediation will elicit different forms of dynamics (such as discussions, intimacy, conflict).

Investigating different mediation modalities and their relationships with different social experiences is material for future quantitative and qualitative research. A test-retest study is necessary to further establish the reliability of this children's mediation scale. Building further on this study, a next step should be to examine bidirectional parent-child influences. This means to investigate parental mediation, children's mediation and the interplay between these two processes. Regarding survey research, future research should also include in-depth interviews, observational research, and diary research to understand the context and the motivations of children to influence their parents' media use, and how parents and children feel about this.

This study showed that children mediate the television use of their parents and that this is associated with more television-related parent-child conflict. Future research should include and further explore children's agency, parent-child bidirectionality, and media mediation, and the different forms of dynamics that are related to this, as this seems an interesting path worth pursuing.

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Shortcuts to Well Being? Evaluating the Credibility of Online Health Information through Multiple Complementary Heuristics

Erin Klawitter & Eszter Hargittai

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Shortcuts to Well Being? Evaluating the Credibility of Online Health Information through Multiple Complementary Heuristics

Erin Klawitter and Eszter Hargittai

Relying on the think-aloud method, this article explores how a diverse group of American adults seek health information online. Analyzing over 350,000 words of interview material and over 43 hours of video screen shots, the study identifies the specific strategies users rely upon in the health-information seeking context. People simultaneously deploy multiple complementary heuristics rather than engage in intensive systematic processing of online information despite the high-stakes nature of these searches. The results contribute nuanced understanding of how diverse adults find and evaluate online information in the important domain of health.

For two decades, scholars have sought to understand whether and how users evaluate the quality of information they find online (Flanagin & Metzger, 2000; Fogg et al., 2003; Hargittai, Fullerton, Menchen-Trevino, & Thomas, 2010; Marchionini, 1997; Menchen-Trevino & Hargittai, 2011; Metzger, 2007; Rieh, 2014; Rieh & Danielson, 2007; Walther, Wang, & Loh, 2004; Wathen & Burkell, 2002; Westerwick, 2013). These studies continue a long tradition in the social sciences regarding how people appraise credibility (e.g., Berlo, Lemert, & Mertz, 1969; Chaiken, 1980; Hovland, Janis, & Kelley, 1953; Hovland & Weiss, 1951; Petty & Cacioppo, 1986). Emerging means of online participation such as social media generate even more questions regarding online credibility assessment.

In a review of literature concerning credibility evaluation online, Metzger (2007) asserted the need for increased research into the topic arguing that “a research agenda for the issue of Internet credibility must include studies of information evaluation using a greater variety of research methods, on a greater

Erin Klawitter (Ph.D., Northwestern University) is a graduate of Media, Technology and Society Program at Northwestern University. Her research focuses on how individuals achieve beneficial economic outcomes by participating in online peer-to-peer markets. Her current project examines independent artists' use of social media and e-commerce Web sites to promote and sell their handmade creative goods.

Eszter Hargittai (Ph.D., Princeton University) is a professor at the Institute for Mass Communication and Media Research at the University of Zurich. Her research examines how people may benefit from their digital media uses and how differences in people's Web-use skills influence what they do online. Her recent work on digital inequality is especially focused on what explains varying levels of online participation.

variety of Internet users, performing a greater variety of search tasks than has been done to date" (p. 2,086). This study responds to this call by analyzing rich qualitative data about how a diverse set of Internet users performed and discussed searches for and evaluation of online health-related content, the accuracy of which is critical.

Gaining a better understanding of how users evaluate online health information is imperative for several reasons. First, using online health information can have tangible and even life-altering consequences, positive and negative (Rieh & Danielson, 2007). Second, nationally representative survey data show that individuals are indeed searching for and using such information, sometimes without input from medical professionals (Fox & Duggan, 2013). Nearly three-quarters (72%) of U.S. adult Internet users have looked for health information online (Fox & Duggan, 2013), an activity similarly popular in other national contexts (e.g., Dutton & Helsper, 2007). More than half (60%) of users, or more than one-third (35%) of all U.S. adults, have looked online for information to help them make a medical diagnosis for themselves or someone else. Additionally, an experimental study of U.S. adults showed that the greater the perceived health risk, the more likely individuals would be to seek sources of health information that would allow them to remain anonymous, such as sources found online (Rains & Ruppel, 2013). People engage in these practices even though the information they find may not be expertly vetted. Thus, examining how Internet users assess the credibility of online health content can uncover how people interface with such content absent professional medical advice.

Through inductive coding of a rich data set collected using multiple qualitative methods, including think-aloud task completions, observations, and follow-up interviews, we find that participants rely on more than 20 strategies to evaluate health content online. Additionally, we find that people execute these strategies through the nuanced application of five cognitive heuristics (Metzger, Flanagin, & Medders, 2010). Our multifaceted approach fulfills key criteria for studying online credibility assessment: we use a variety of methods to study a variety of users performing a variety of tasks. Our method also allows for a more nuanced investigation of the way users evaluate credibility in a high-consequence decision-making context (Rieh, 2014). In sum, this study provides a nuanced understanding of how users process online information by fleshing out the strategies participants use to apply heuristics in the context of online health-information seeking behavior.

Credibility and Heuristic Processing of Information

Literature in the digital age has continued the long tradition of communication about how people become persuaded of information's credibility (Flanagin & Metzger, 2000; Fogg et al., 2003; Rieh, 2014; Rieh & Danielson, 2007; Wathen & Burkell, 2002). Models of persuasion called dual-processing models (Chaiken, 1980; Petty & Cacioppo, 1986) suggest that people show greater trust

in the veracity of information based on source expertise and trustworthiness (Hovland et al., 1953; Hovland & Weiss, 1951), which they evaluate based on the extent to which they find the source of information to be safe and qualified (Berlo et al., 1969). Dual-processing models of persuasion integrate this large body of work to describe how, why, and under what conditions users might decide some information is credible while other information is not (Metzger, 2007). Such models theorize how and why individuals' attitudes or beliefs might change (Chaiken, 1980). They propose that people are more likely to engage in the first, *systematic*, mode of processing, which involves the comprehensive analysis of all potentially useful information, when they have more at stake. Alternatively, when people anticipate less risk they engage in the second, *heuristic*, mode of processing, using "simple decision-rules used to mediate persuasion" (Chaiken, 1980, p. 752).

The Internet provides a fruitful context for extending scholarship into the systematic and heuristic ways people process information. The opportunities the Internet presents for asynchronous and anonymous communication as well as for user-generated content can impact information-seeking strategies (Marchionini, 1997) and result in the conflation of source, message, and medium, traditional theoretical constructs (Rieh & Danielson, 2007). Empirical studies show that users rely on various criteria to determine the credibility of information they find online. Attributes including accuracy, source expertise, and professionalism of design tend to persuade users to trust information (Banning & Sweetser, 2007; Hargittai et al., 2010; Pan et al., 2007), although users often rely on verification procedures that are easier to perform (Flanagin & Metzger, 2000). Such work extends theoretical models of credibility assessment in the offline context by demonstrating the importance of various characteristics of the source providing the information (e.g., expertise) the person evaluating the information (e.g., familiarity with information), and the information itself (e.g., genre) to credibility assessment.

Qualitative analysis of focus group data (Metzger et al., 2010) ascertained five cognitive heuristics people use to assess credibility: *reputation*—recognizing the "reputation or name recognition of Web sites or source"; *endorsement*—validating content based on other people or brands associated with the Web site or source; *consistency*—checking multiple Web sites to see if they present similar information; *expectancy violation*—evaluating online information based on whether it meets expectations; and *persuasive intent*—perceiving content as calling them to some action, such as purchasing a product. Although this study filled an important gap in the literature by soliciting detailed accounts of users' credibility assessment practices rather than relying solely on survey or experimental data, it relied on users' recollection of their cognitive processes during past events rather than observing their behavior searching for information in the present. In addition, it considered credibility assessment in general rather than in a specific high-stakes domain, such as health. These are the areas in which our study advances the literature.

Evaluating the Credibility of Online Health Information

Research focusing specifically on the credibility of online health information has investigated the accuracy of such content as well as how users come to trust such information, and whether they invest the time required to verify the information they seek (Eysenbach, Powell, Kuss, & Sa, 2002; Hu & Sundar, 2010; Sillence, Briggs, Fishwick, & Harris, 2004; Sillence, Briggs, Harris, & Fishwick, 2007; Westerwick, 2013). Studies have also demonstrated that some users lack confidence and skills when it comes to evaluating online health information (Chan & Kaufman, 2011; Knapp, Madden, Wang, Sloyer, & Shenkman, 2011; Lau & Coiera, 2008; Van Der Vaart, Drossaert, De Heus, Taal, & Van De Laar, 2013; Van Deursen & Van Dijk, 2011). An experimental study showed that participants assign lower believability ratings to user-generated content regarding health than they did to traditional media content about health, and believed traditional media content regarding health more than traditional media content regarding news, consumer products, or travel (Rieh, 2014).

Our project advances existing scholarship in this domain by including information about a more diverse group than do most prior studies and avoiding inaccuracies from recall after the fact. Given the prevalence of health-information seeking online and the importance of assessing the credibility of such information accurately, we use a rich data set to answer the following research question: What specific strategies do users employ to assess the credibility of health information online?

Methods

Data Collection

We met in person, one-on-one, with 76 diverse adult Internet users recruited from both urban and suburban areas in the Midwestern United States (see Table 1 for information about study participants). We posted flyers in cafes, office buildings, and libraries as well as advertising on the regional Craigslist job board. We paid \$40 for participants to come to our lab on campus where they met with a researcher. First, using surveys, background information (demographics, Internet skills, health literacy) about participants was collected. Next, participants were asked to use a network-connected desktop to perform nine tasks online. These tasks started with an open-ended question about a recent health search experience to propel participants to feel invested in their online search, followed by eight hypothetical questions (see Appendix I).

All information-search actions on the screen both in video (Hypercam) and still shot (IE Capture) format were recorded, in addition to audio recordings of everything the respondents said during the sessions. Participants were prompted to talk through and articulate their online actions (Ericsson & Simon, 1985; Eveland & Dunwoody, 2000; Wirth, Böcking, Karnowski, & Von Pape, 2007); they were not asked questions about their actions

Table 1
Participant Background

	N
Women	35
Men	41
Age (range 19–75)	76
Race and ethnicity	
African American, non-Hispanic	14
Asian American, non-Hispanic	7
Hispanic	6
White, non-Hispanic	49
Highest level of education	
Without college degree	21
College degree	40
Graduate degree	15
Health status	
Excellent	19
Very good	36
Good	18
Fair	3

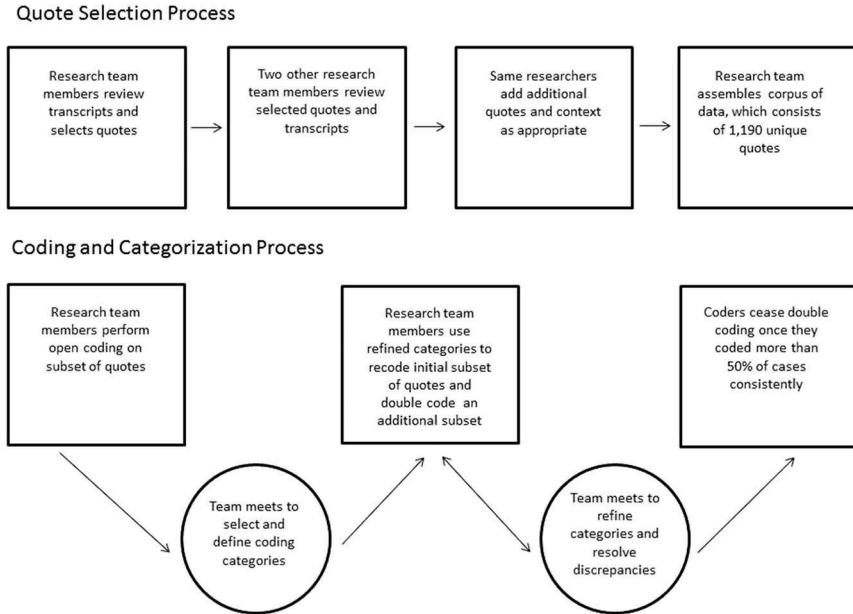
during this session. After participants had performed all tasks, a “post-observation interview” was conducted, during which participants were asked about specific decisions they made during the session. The observation sessions and subsequent interviews yielded 1,160 single-spaced pages of transcripts, comprising 355,477 words. More than 43 hours of screen action video and 4,583 screenshots of the Web pages visited by participants were recorded. These data served as the basis for our analyses.

Coding and Analysis

We analyzed the entire corpus of transcripts to identify quotes from participants that revealed their cognitive processes as they executed the various health-information seeking tasks. [Figure 1](#) illustrates the process of selection, category development, and coding. The iterative selection process yielded 1,190 unique quotes capturing the entirety of the participants’ thoughts as articulated in the transcript.

Three researchers and two trained research assistants performed open coding (Corbin & Strauss, 2008) on an initial subset of quotes to develop inductive categories for the ways participants articulated the process of searching for health information ([Figure 1](#)). Following the initial round of coding, the research team met to select and define the set of final categories. Researchers double-coded a portion of the data set to ensure the internal validity of these categories. One quote could be coded as signifying multiple strategies.

Figure 1
Data Analysis



Through this process, we developed 23 categories of credibility assessment approaches. After all of the data were coded, we linked these credibility assessment strategies to the five broad heuristics categories identified as important by prior work (Metzger et al., 2010) to examine precisely how users deploy heuristic strategies during online credibility assessment.

Findings

Think-aloud task completions and post-observation interviews reveal specific strategies (Table 2) that people use in the online health-information seeking context: reputation, endorsement, consistency, expectancy violation, and persuasive intent. Most notably, adding important nuance to prior findings, our analyses show that users often rely on multiple complementary and intersecting heuristic strategies to compensate for what they may perceive as their inability to verify or validate information they find online. In the absence of efficient opportunities to engage in systematic processing, users combine cognitive heuristics to justify their judgment of

Table 2
Heuristic Strategies

Heuristic	Strategies
Reputation	Assess institutional reputation & expertise <ul style="list-style-type: none"> • Brand credibility • Citation credibility • Professional expertise • Personal experience revealed in user-generated content Draw on previous experiences <ul style="list-style-type: none"> • Prior Web site experience • Prior knowledge Identify geographic reputation
Endorsement	<ul style="list-style-type: none"> • Recognize social endorsement • Heard of it from others • Popularity • Ratings • Consider sponsor endorsement • Rely on algorithmic endorsement • Search engine ranking
Consistency	<ul style="list-style-type: none"> • Research consistency • Cross-reference content
Expectancy Violation	<ul style="list-style-type: none"> • Voice design expectations • Domain name • Appearance • Amount of content • Consider content expectations • Name of site • Search results • Search term familiarity • Medical terms • Date • Rely on information expectations • Personal health experience • Confirmation bias
Persuasive Intent	<ul style="list-style-type: none"> • Acknowledge commercial content • Advertising recognition • Question hidden purposes • Motives

information trustworthiness. Next, we discuss the five main heuristics. Due to space constraints, we highlight just one or two quotes that exemplify participants' use of heuristics. Our examples are representative of similar comments by others in the study. In some cases, we have slightly edited the quotes to improve clarity while still preserving the integrity of the participant's intended meaning.

Reputation

When people rely on the reputation heuristic, they rely on recognizing the name or understanding of the reputation of a Web site or source of information to assess credibility rather than verifying the accuracy of the information or the expertise of the author (Metzger et al., 2010). Our data support this finding and indicate that users look to a variety of reputational indicators, including institutional reputation, citation credibility, geographic origin of content, and signals of content author expertise when they evaluate the credibility of content.

Participants suggested that online health information appeared to be more credible if published by institutions with some form of established expertise. In general, participants found Web sites published by health care institutions or health-focused Web sites to be more credible than other sites. For example, one of our participants, a 29-year-old, White female with a college degree, provided a clear articulation of assessing institutional reputation for expertise, or brand credibility, while talking through the open health search task. She said, "the first searches that come up, if it was something that sounds legit, like this is Mayo Clinic or Cleveland Clinic, so that's pretty legit, so I'd probably click this [clicks on Google search result for clevelandclinic.org]."

Our data reveal that some participants also weighed the credibility of the sources a Web site cited. While reflecting on her search for information regarding a red spot on an eyeball during the post-observation interview, a 33-year-old, college-educated, White, female human resources specialist said that she evaluates a Web site's credibility based on who they quote in their articles. She said, "usually they [About.com] tend to quote doctors in these articles so I guess I trust them a little bit more." Indeed, this participant used the information she found on About.com to provide her response to the task assignment.

Participants showed an interest in evaluating the expertise of health information authors. They evaluated the credibility of information based on either the author's professional expertise or personal experience revealed through user-generated content. A 39-year-old White female librarian emphasized the importance of an author's professional expertise while searching for information regarding a red spot on an eyeball. "[Clicks on About.com search result and notices O.D. after author's name.] It's an eye doctor so he's probably fairly credible [copies term 'subconjunctival hemorrhage' from Web page and uses it to begin a search for more information.]" This participant found a medical diagnosis to be more credible because she noted that it appeared to be authored by an optometrist. However, she did not verify that the author held the degree he claimed.

Participants indicated that they relied on what they knew about an organization's services and reputation before searching for health information online. For example, a 46-year-old female African American administrative assistant with some college education relied on prior knowledge of health information to help her give advice to a friend seeking access to emergency contraception. She said, "I know CVS and I was trying to find where could I find the next day pill. Where do I buy it? Of course

you go to a pharmacy or a drugstore.” Reliance on prior knowledge of an organization’s existence and reputation guided her search for trustworthy health information.

Finally, our data show that several participants made a link between the credibility of information and its geographic location of origin. For example, during the red ant task, a 52-year-old White, college-educated, male engineer stated, “Texas A&M. Now I would trust this because fire ants are predominantly in the Southeast and West.” He assigned expertise regarding red ants to Texas A&M because of its geographic location. While the use of geographic origin of content as a heuristic strategy was not widely applied by our participants, the users who did relied on it to make important credibility evaluations.

These observations support Metzger and colleagues’ (2010) finding that users rely on reputational factors to assess online information. We extend their definition of the reputation heuristic by showing that perceptions of institutional credibility, citation credibility, author expertise, and even geographic location of origin inform perceptions of reputation. While some of these strategies may appear to indicate a more systematic form of processing, the behaviors of the participants show that they do not often verify reputational or expertise cues.

Endorsement

Endorsement means that users rely on other people or brands to signal the trustworthiness of information. Our study shows that users rely on multiple forms of social endorsement (validation from other people), sponsor endorsement (validation by brands), and, in a notable extension of prior literature on online health-information seeking, algorithmic endorsement, or search engine rankings.

Users often evaluated content based on whether they had heard of it from others, if the content of a Web site was popular, or if the content had received ratings from other users. One participant, a 22-year-old, college-educated woman, demonstrated that participants connected hearing about Web sites from others and credibility. She said, “I’ve heard about [WebMD.com] from multiple people, a lot of people use this one, so I should by default go to it because of its credibility.” Additionally, participants said that a Web site’s popularity enhanced credibility. A 21-year-old, college-educated Asian male, described constructing his search queries with popular sites in mind. “I sometimes even put Yahoo! Answers in my Google search because I think that [it] is the best one because of the number of people using it. That’s the only thing [the site’s popularity] I think that’s legitimizing these aggregate answering Web sites.” Finally, participants relied on user-generated reviews and ratings to evaluate the quality of information they found. While searching for a location to get an HIV test during one of the tasks, a 21-year-old African American female student said, “I’m gonna go to the number one [search result]. It says Test Positive Aware Network. It’s in Edgewater, and it’s got 7 reviews with the highest number of stars, which is five stars.” Thus, people use social and design cues to ascertain whether others endorse content. By noting whether they have heard of a site, perceive it as popular, or use ratings supplied by other users,

participants in our study show that social endorsement is a powerful way to evaluate health content.

Participants also judged content by sponsoring brands. While reflecting on the Web site *babycenter.com* during the post-observation interview about whether to recommend a glass of wine to a pregnant friend, a 22-year-old Asian, female marketing intern with some college education said, "The Web site seemed legitimate. It has sponsors like Johnson & Johnson so it's got to be a good site for moms." This exemplar highlights the importance of brand endorsement to legitimizing the health content users find online.

Finally, participants relied on search engine rankings, or what we call algorithmic endorsement, to select Web sites to help them complete a variety of tasks. For example, when the researcher asked a participant, a 39-year-old White, college-educated female librarian, why she chose to visit a Web site to learn more about antibiotics, she said, "It came up first on Google or it was near the top." Like many other participants, she used algorithmic endorsement to guide her as she searched for credible health information. Although prior research has highlighted this heuristic processing (Hargittai et al., 2010; Pan et al., 2007), it has not been discussed much in the important domain of health.

Consistency

Our data show support for the consistency heuristic; users cross-reference various sources to determine whether information is trustworthy. While this particular heuristic seems closely related to systematic processing, we found participants sought to match information rather than searching out quality sources of information. For example, during completion of the open task, a 41-year-old African American male mechanic described his information seeking habits: "I usually like to, after reading that [WebMD article], go to another URL like *eMedicineHealth* for instance. I like to get three or four different articles so I can see if some of the symptoms are common." Thus, participants check for consistency between various Web sites; however, they stop short of actively evaluating the quality of the consistent information they find.

Expectancy Violation

Internet users evaluate the credibility of online information negatively when it violates their expectations (Metzger, 2007). Our data are consistent with such findings; when participants found their expectations for design, content, or information violated, they tended to judge the material unfavorably. If what they found satisfied their expectations for these elements, they tended to evaluate credibility positively. In particular, domain names, aesthetic appearance, and amount of content on a Web site or page influenced how users judged health content.

Generally, participants evaluated Web sites with a .org or .gov ending favorably (despite the fact that there are no more regulations on who gets to own a .org domain name than

there are for .com domains). During the post-observation interview, a 21-year-old African American male campaign worker with some college education said: "To me, it just seemed that anything basically with a dot-org is purely legit. It's basically a good source to go from, rather than [a] wiki." Participants also relied on their expectations regarding Web site appearances. During the eye search task, a 58-year-old White, college-educated female consultant said she chose eMedicineHealth.com because, "it appeared to be a decent, legitimate site, and I based that on appearance, too. It's like you judge people. Sad but true."

Additionally, participants voiced expectations regarding the amount of content they thought a Web site should have. For example, a female participant responded to our query regarding her perceptions of the HIV test location information she found on Google Places: "I don't know anything about the Phoenix [a result for HIV testing listed in her search with very little information about it on the search results page.]. I wasn't so impressed because there wasn't a Web site, there wasn't much information on there, and there were no reviews, so I myself wouldn't go there." This reflection shows that users expect to find a certain amount of content regarding a topic or an organization.

Participants revealed certain expectations for search engine result content, including the name of the Web site, search result description, search term familiarity, medical terms, and date of content. Participants looked to this kind of information to select from a search results page of information. During the open health search task, a 22-year-old White female college student said, "I'm looking for a name that I've heard of or something that just looks more reputable. Like if it's a very concise term like, this one's veganhealth.org. When someone purchases that kind of domain name, usually it's a company or something that has more invested interest in it than just someone who created a Web page in their spare time." Additionally, participants looked to the brief description provided in many search engine results to guide them to trustworthy information. During the post-observation interview, we asked a 34-year-old college-educated White male manager how he chose which search engine result to pursue. He responded, "Top to bottom. And if I see a good summary talking about what I put in, I'll do that." Participants also found that matching "query terms" to terms in the results helped them decide which content to review. While performing the open search task, a 21-year-old, female African American student said, "That's the only reason why I clicked Facebook. Because it actually did mention [name of condition she searched for in the open task.]"

The presence of medical terms helped participants evaluate credibility. A 25-year-old college-educated White male reflected on why he clicked a search result during the task about a red spot on the eyeball. He said, "The first one I chose because the name subconjunctival hemorrhage registered as something that has to do with the eye. Obviously they knew what they were talking about if they used proper medical terminology." During the open search task, a 41-year-old African American male said: "Sometimes they have dates on them so I try to look for something more current. You know, for instance this 130 hours ago, maybe someone updated information."

Participants also evaluated content in light of similar previous health experiences or based on their expectations of accuracy. While searching for information about a red

spot on an eyeball, a 24-year-old, college-educated African American male participant said, "I would say that was a blood vessel that popped in the eye, because I have a friend that that happened to. So I would probably assume that and then I would just think that it's a blood vessel. But now I know by searching online, it's called a subconjunctival hemorrhage." Since the descriptions the participant found matched the experience of his friend, he positively evaluated the content.

We found several instances of confirmation bias or the tendency to rely on information that confirms one's already-held opinions; these clustered in the task regarding consuming wine while pregnant. Indeed, most participants selected search results and affirmed the credibility of information that was consistent with the widespread belief that women should not drink alcohol during pregnancy. A 20-year-old, female African American undergraduate student found information that suggested it is fine for the hypothetical pregnant friend to drink. She responded: "But I just wouldn't. I don't know. I would pick the one that says 'no' because that's what I believe." Thus, findings regarding expectations and expectancy violations reveal that users rely on previously learned information (accurate or not) and *a priori* beliefs to assess the credibility of online health information

Persuasive Intent

Our data reveal that users recognize a variety of potentially persuasive motives for publishing information. While chief among these is commercial advertising, participants also unfavorably regarded any content they perceived as having a hidden agenda. Conversely, they were more likely to trust content they perceived to be published without such intent. Some users simply disregarded any content they perceived to have commercial intent, including paid search engine results. While searching during the open health search task, a 25-year-old, college-educated White male participant said, "So I went home to Google. I looked for probiotics, and I looked for the first non-advertised result." On the other hand, participants positively regarded Web sites that they did not perceive to have commercial motives. While reflecting on her findings during the open search task, a 20-year-old African American female undergraduate student said, "No [familyeducation.com] just looks like a social services type of Web site. So they try to help parents with their children if they have questions." She attributed positive intent to the site, rightly or wrongly, which helped her evaluate it favorably.

In addition to disregarding advertising content because of its persuasive intent, participants also evaluated Web sites' motives. For example, during the pregnancy task, a 22-year-old college-educated Asian female marketing intern said that she felt that babycenter.com had "a little skewed perspective because obviously a baby kind of Web site is gonna do the most kind of extreme view and tell you to steer clear of alcohol. But I guess a lot of Web sites are gonna be biased so finding one with a pretty neutral tone would have been a little harder and would have required more research." This example points to participants' awareness that some Web sites may

present biased information. When that information appears to be independent of commercial motives, however, participants tended to regard it more favorably.

Intersections, Complementarity, and Vulnerability

Notably, participants often deployed multiple heuristic strategies as they evaluated online health information. While the way we present our findings here might imply that heuristic strategies are both separate practices and constructs, our data show that users combine heuristics in creative, overlapping, and intersecting ways. For example, in the post-observation interview regarding the red spot on eyeball task, we asked one participant, a 43-year-old White female lecturer, if she had ever visited a particular Web site before. In reply she said:

The layout of it looks familiar to me. I mean I have looked for health information a few times. I've looked at a little bit about this site. I liked the fact that it had various articles about it. I like that it had the Harvard Medical School stuff on it. If I was really worried, it did have ads at the top so it's obviously having some sponsorship involved in it of some sort. It looked okay as a start for this kind of an issue. If it was like a big health issue, like if I thought I was going to die, I would probably cross check across a couple different sites. It had the look and feel to me of a site that I would generally think would have decent reputable information.

In this complete description of the user's cognitive processing, we identify the presence of the following heuristic strategies: previous experience of Web site (reputation); institutional expertise (reputation); sponsor credibility (endorsement); advertising (persuasive intent); cross-referencing (consistency); and appearance (expectancy violation). Thus, in a single description of evaluating a single Web site during a single information-seeking task, this participant relied on multiple strategies to deploy all five cognitive heuristics in order to arrive at the conclusion that "it looked okay as a start for this kind of an issue."

The above quote points to a trend in our data: participants attempted to engage multiple forms of heuristic processing because they were seeking health information specifically. The participant quoted above notes that the Web site "looked okay" for what she perceived as a minor health issue. She says that she might apply the consistency heuristic more intensively by cross-checking information in a more extreme circumstance, such as "if I thought I were going to die." Participants described evaluating information so carefully because the tasks they performed concerned their health, a particularly critical context. Users seemed more willing to engage in more intensive heuristic processing when they perceived the stakes of the search to be higher.

Discussion

While our findings generally support the cognitive heuristics framework of credibility assessment online, our study makes several contributions to existing literature. First, despite prior work suggesting that in high-stakes contexts people will be more likely to rely on systematic processing of material, we find that even in the serious domain of health content, users very much rely on heuristic processing of online information.

Second, we find that algorithmic endorsement plays an important role in how people evaluate content even though few participants can articulate accurately why the top few results might be more credible than the rest. Rather, in line with prior related work (Hargittai et al., 2010; Pan et al., 2007), we show that users rely on search engine rankings as a proxy for information credibility, even in the high-stakes context of health-information seeking.

Third, we find that users often rely on various heuristics simultaneously as they assess the credibility of online health content. Prior work has not identified the complementary role that heuristics play in this process. For example, users do not rely simply on reputation—they assess various markers of expertise and weigh them. They do not look solely to endorsement—they balance the various characteristics of the source information and the endorsement provided by such non-human agents as search engine algorithms. Users often use multiple complementary and intersecting heuristic strategies to compensate for what they may perceive as their inability to verify or validate information they find online.

While the richness of our data set allows us to provide nuanced detail and support for our findings, like every study, ours also has limitations. Although we made every effort to mitigate the Hawthorne effect (Landsberger, 1958), we recognize that some participants may have modified their discourse or behavior because of a researcher's presence. Additionally, this study does, to some extent, rely on participants' ability and willingness to articulate their thoughts and behavior as they are performing challenging tasks. While we believe that the think-aloud method provides more precise insight into the cognitive strategies users rely on while searching for online information than several other data collection methods often used to study these questions, including log data and recollections of past behavior, this methodology does not fully replicate people's search behavior in a natural setting. Future research should strive to blend different methods of data collection to address those limitations.

Conclusion

This study's think-aloud design incorporates discursive and behavioral data from a diverse group of American adults as they perform a wide variety of health-information-seeking tasks online. It finds support for the broad framework of heuristics by directly observing people's online actions rather than relying on their recollection of

past perceptions and behaviors. In detailing the strategies users deploy in health-information-seeking contexts, the study also shows that people use multiple complementary heuristics rather than engage in intensive systematic processing of online information in the important domain of health. The findings contribute nuanced understanding of the way people evaluate online information and provide evidence that can be compared with processes of credibility assessment in other contexts. The study takes no shortcuts, even as it demonstrates that users seeking health information most certainly do.

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Appendix I. Task List

Think of a health question you recently came across. How did you search for the answer? What led you to begin this search, and did you find the information you needed? Try to replicate the search online. If you have not recently come across a health question, formulate one now, and search for the answer using the Internet.

Suddenly you notice a red spot on your eyeball. You have no idea what it is. How do you figure it out, and what is it?

Your cousin is concerned about her health and wants to get an HIV test. She is not a student at any school, but lives in Chicago. Can you help her find a place to get such a test? Where is the location of such a place, and at what times are they open for this service?

[SHOW RESPONDENT TOOTH MOLD] Your tooth hurts and you call your dentist to tell her about it. This is the tooth. [POINT TO TOOTH.] You don't know what it's called. What is the name of the tooth?

A friend of yours is concerned that he might be overweight. What information do you need from him to find out if he is overweight? [IF RESPONDENT ASKS, GIVE WEIGHT AS 205 LBS (93 kg), HEIGHT AS 6'2" (1.88 m)] Based on this information, can you say whether he is overweight or not?

Your pregnant friend decides to have a glass of wine. Should this be a concern? Why or why not?

You are at home in the middle of the summer. A friend calls you frantically on Friday at midnight. The condom broke while she was with her boyfriend. What can she do to prevent pregnancy? She lives in South Bend, Indiana.

A friend has just called you from the Southern United States where she is on a hiking trip. She tells you that she has just stepped into an anthill of small red ants and has a large number of painful bites on her leg. She wants to know what species of ants they are likely to be, how dangerous they are, and what she can do about the bites. What will you tell her? (adapted from Gwizdka, 2008).

Your doctor prescribes a two-week antibiotic for an infection that you have. He insists that you finish taking the entire bottle, even if the infection subsides before the two weeks are up. Why is this? [WAIT FOR RESPONDENT TO RESPOND.] What can happen when patients stop taking antibiotics before they are finished?



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Coping with [R]evolution in Online Games: Vulnerability and Resilience Responses to Change in MMO Game Expansions

Jaime Banks  and Rosa Mikeal Martey

Massively multiplayer online games (MMOs) often introduce new content and mechanics to increase player retention and enjoyment. Drawing on theories of socioecological risk response, this exploratory study examines players' in situ responses to these changes by analyzing patterns in public, in-game chat across 3 game expansions. Analysis reveals that a) change facilitates agenda setting in player chat, b) vulnerability and resilience expressions highlight tensions in player and game agencies, and c) increased semantic distance between the game and the "real" helps cope with game changes. In addition, sociotechnical affordances of MMO environments could be a mechanism for coping with change, more generally.

A massive disaster rips apart a long-standing society: floods overwhelm towns, deep chasms split farmlands, mountains spew lava, majestic cities burn and crumble. Elsewhere, a new race of beings emerges from a newly discovered jungle. In yet another galaxy, mercenary ships battle for bounties and planetary control, transforming political and economic fortunes.

These are changes in massively multiplayer online games (MMOs) that result from expansions released by the games' developers, respectively World of Warcraft's "Cataclysm," EVE Online's "Retribution," and Guild Wars 2's "Heart of Thorns." Expansions are supplementary software packages in an established MMO that add content such as new playable characters, narrative, environment, and rules for fighting or crafting objects in the game.

Jaime Banks (Ph.D., Colorado State University) is assistant professor of Communication Studies at West Virginia University. Her research interests include human-technology relationships, especially in relation to videogame avatars and social robots.

Rosa Mikeal Martey (Ph.D., University of Pennsylvania) is associate professor of Journalism and Media Communication at Colorado State University. Her research interests include social norms and interaction in online games and other spaces, online and offline identities including gender, race, and sexual identities, and digital learning tools including games.

Outside of MMOs, dramatic changes to the social worlds, landscapes, and resources of everyday life are understood to have cognitive, affective, and behavioral effects (see Schultz, Neria, Allen, & Espinel, 2013). These effects emerge from perceived risk associated with uncertainty of the meaning or outcome of the change (Brashers, 2001), usually with concern for personal well-being, access to resources, or soundness of material or social entitlements (Adger, 2000). Changes in digital spaces such as MMOs are conceptual and experiential rather than physical, but may similarly impact how players interact with the game and with each other in these highly social spaces. Examining players' cognitive, emotional, and social well-being in response to upheavals in the digital environments of MMOs provides insight into how people adapt their social and technological relations in the face of risk and uncertainty.

This exploratory study engages inductive thematic and content analyses of public chat logs in the MMO *World of Warcraft* (WoW) to examine whether players publicly communicate vulnerability and resilience in response to game expansion changes. Analysis reveals that change serves an agenda-setting function in public, in-game chat, and that players a) see avatars as a locus of both vulnerability and resilience, and b) mitigate in-game vulnerability by shifting frames to focus on extra-game resilience. These findings are interpreted to suggest that people may experience drastic change in digital environments similarly to that in physical environments, and that sociotechnical affordances of MMO environments could be important mechanism for coping with change more broadly.

Literature Review

Change may be understood as a difference over time in the features of a thing (Mortensen, 2012). Humans are intrinsically adaptive and can anticipate and adjust to gradual changes; however this adaptation may be limited by social factors—such as individual and cultural attitudes toward risk (Adger et al., 2009)—and may be more difficult when change is abrupt (Pinquart & Silbereisen, 2004). Broadly, change may generate stress through imbalanced demands and resources (Lazarus & Folkman, 1984), uncertainty (Stocking, H, 1999), and perceptions of hazard or risk (Adger, 2006). Understanding responses to change helps illuminate how relationships with social and technological structures emerge over time within specific contexts.

Change in Massively Multiplayer Online Games

Since early MMOs such as *Neverwinter Nights*, *Ultima Online*, and *EverQuest* were introduced in the 1990s, the genre has grown to include hundreds of titles with subscription-based, free-to-play, and freemium payment structures. MMOs require sustained player populations to be economically viable (see Consalvo & Paul, 2013), and MMO developers often produce flexible, replayable, or new content to remain

competitive and retain subscribers or rebuild a waning player base (Debeauvais, Nardi, Schiano, Ducheneaut, & Yee, 2010).

MMO change may manifest in different ways, including patches, downloadable content packages, and feature additions. Perhaps the most dramatic mechanism for introducing change is the game expansion: the release of new software that significantly complements, alters, and/or extends the original game. Although game designers may integrate the change with existing game narratives to maintain game-world coherence (Lebowitz & Klug, 2011), these shifts may still be disruptive for players. For example, new gameplay mechanics may be jarring or introduce uncertainty (Costikyan, 2013), in part because the player-avatar relation (understood as central to MMO gameplay) is rooted in a player's sense of control over their avatar's actions (Banks, 2015).

Change in immersive digital environments is effective in retaining user interest, but only to a certain extent. If there is a significant shift in game character, quality, and experience that renders player knowledge and skill moot, players may lose interest (Bartle, 2004). Although such change is generated by programmed code, it is experienced differently by users: that code governs game content and gives people new "things to do, places to do it, and things to do it to" (Bartle, 2004, p. 55). As such, software changes may be understood to be experienced—in parallel—as ludic change (challenges, mechanics, rewards), environmental change (places, aesthetics, stories), and social change (avatars, other players). Each of these types of change is discussed in the following sections to unpack the ways that change may influence players' experiences and interaction with the game and with each other.

Ludic Change. A ludic change is a shift in a game's objectives (aims or final states), competitive elements (win/lose states, progression, and/or payoffs), or rulesets (parameters, affordances/constraints, and governance; Lindley, 2004). Changes to these elements can introduce new mechanisms for interaction and control by introducing new avatar powers, configurations, and/or interfaces. These changes may in turn require players to adapt their play styles, resources, or interactions with other players and with the game itself, and influence the ways players achieve game goals (Choi, Lee, Choi, & Kim, 2007). For example, if a healer's primary spell power is decreased, the change may affect other players' survivability or how a group pursues game goals; if the number of healing spells available is reduced, players may have to learn new patterns of engaging the remaining spells through game controllers.

Environmental Change. Environmental change can be understood as a shift in *worldness* (Klastrup, 2008): the meanings of a gamespace that emerge through interplays of environmental aesthetics, denizens, events, and interactions. These meanings contribute to a "sense of place" (Tuan, 1977, p. 3) that encompasses the meanings, attachment, and satisfactions generated, as people interact and become familiar with their environments (Stedman, 2003). A community's shared sense of place—such as that of an MMO's regular players—may engender *topophilia*, or love

of a place that creates a sense of unity and shared meaning among people (Tuan, 1974). Although in some games (e.g., text-based and sandbox games) players can modify the content, MMOs most often limit or prevent users from materially altering the gameworld, so environmental change lies in the hands of game developers (Bartle, 2004). Because players have little agency in this process, when expansions do change the environment, the meanings, attachments, and overall sense of place players feel may be disrupted. Little empirical scholarship has been conducted on environmental change in immersive digital environments, and most existing literature focuses on the potential for the digital sense of place to correspond with that of physical environs, such as libraries (e.g., Lawson, 2004).

Social Change. Scholars argue that digital games are inherently social (Gee, 2003) and that this sociality emerges when players interact with technological agents and other players in the game within a specific narrative context. Although game developers may attend closely to how players respond to changes made to their MMOs, limited scholarly work has examined the phenomenon. Discrete social changes that shift how players collaborate were studied by Chen and colleagues (2008), finding that 1) expansion-driven shifts to smaller raid groups (teams that cooperate to beat an extremely difficult foe) boosted trust and intimacy, 2) more difficult raids heightened trust and coordination, and 3) new collaboration mechanics shifted large, distributed social networks to small, dense groups with greater cohesion. Sometimes game expansions introduce new playable characters, new narratives, and/or new geographies, which may shift the gameworld's cultural aesthetic, historical contexts and references, and key actors (Langer, 2008) and augment or alter the expressive equipment afforded by game avatars. Importantly, players may engage in relations with game characters themselves in new ways when new narratives and plot events are introduced, sometimes seeing the avatars as distinct social others that experience the game as partners (Banks, 2015). Consequently, a change to avatar appearance, behavior, narrative position, or function could fundamentally change player-avatar relations.

Together, ludic, environmental, and social changes in a gameworld can have profound effects on player experiences and may introduce perceptions of risk. As few formal theories account for how and why this might be—and how such change experience may influence individual and social processes—it is useful to draw from broader theories of change to consider the notion of change as risk that may be met with vulnerability or resilience.

Human Response to Risk

Risk can be understood as the potential for an undesirable event or state (Hansson, 2014) that generates feelings of uncertainty as to whether that event will occur and ambiguity about potential new situational meanings (Brashers, 2001). In an MMO expansion, there is a risk that familiar environments or characters may be taken

away, or that one's avatar may become more difficult to play due to a change in game mechanics. Responses to risk may include attempts at uncertainty reduction, including the gathering of information in order to better understand how to think, feel, and act in ambiguous situations (Berger & Calabrese, 1975), evaluating situational fairness (Van den Bos & Lind, 2002), or working to maintain norms and practices in the face of change (Theron et al., 2011). Uncertainty may also be embraced in order to sustain hope and optimism (Brashers, 2001). As such, risk perception is an important driver in how relationships with social and technical structures are developed, maintained, and adjusted.

Socioecological theories of risk characterize human response to change as manifesting either vulnerability or resilience. Vulnerability is the susceptibility to harm resulting from social or emotional change and an inability to adapt to it (Adger, 2006). It is driven by—and reinforces—self-interest, and can also be thought of as insecurity, pressure, or lack of social and/or material entitlements in the face of that harm (Adger, 2000). Resilience is the ability to cope with change (Folke, 2006) that may manifest as tolerating and persisting through change (Adger, 2006) or as reorganizing and adapting to change (Carpenter, Walker, Anderies, & Abel, 2001). This persistence and adaptation may encompass psychological, social, and/or behavioral dimensions.

Examining vulnerability and resilience responses to MMO game expansions can provide insight about how risk and uncertainty manifest in social interactions, broadly. Although risk in games has been extensively examined in terms of psychological effects such as addiction (Hinvest & Brosnan, 2012), violent behavior (Anderson et al., 2010), and body image (Villani, Gatti, Confalonieri, & Riva, 2012), there is limited research on how risk response manifests within gameplay itself. Vulnerability in games has been examined in relation to account security and digital assets subject to exploitation by social engineering, attacking gaming applications, or hacking game infrastructures (Meyer, 2011). The consequences of such exploitation can affect players' and avatars' reputations (Grimes, Fleischman, & Jaeger, 2009) and in-game resources (Copcic, McKenzie, & Hobbs, 2013). Resilience to such loss may be related to games' abilities to improve mental well-being and prosociality (Jones, Scholes, Johnson, Katsikitis, & Carras, 2014) and strengthen social support systems (Chen, Duh, & Renyi, 2008). This line of research largely treats communication and self-expression as an outcome or indicator of risk perceptions.

Research Questions

Little is known about how players experience substantial ludic, environmental, and social changes to MMOs and risk perceptions that may follow. Because meaning is constructed through social interaction (Blumer, 1962), we examine how expressions of vulnerability and resilience emerge in players' public, in-game textual chat when encountering game changes for the first time—on release days for significant

patches or expansions. We ask the following exploratory questions of players' public, in-game chat communications:

RQ₁: Do players communicate publicly about game changes?

RQ₂: Do players communicate vulnerability and resilience in response to game expansion changes?

And, if so:

RQ₃: Do players' communications of vulnerability and resilience vary by the type of game changes?

Method

To address these questions, public chat dialogue—the textual exchanges among players in common communication channels—was logged during three game expansions over approximately four years in the MMO *World of Warcraft* (WoW). Chat data were analyzed for themes in topic, presence of change mentions, and indications of vulnerability or resilience.

Research Context

Launched in 1994, WoW is one of the largest MMOs in the United States by number of subscribers with approximately 11 million users at its peak (Blizzard Entertainment, 2008). Characteristic of many MMOs, players create characters by choosing among predetermined races (e.g., Orc, Night Elf, Human) and classes (e.g., mage, warrior, druid) and maneuver the avatar through an immersive gameworld. Players can develop their character's abilities by completing quests, killing monsters, and developing professions. They may also socialize with other players, craft objects, engage in player-versus-player combat, role-play, and other activities. Narratively, the game follows the struggles of two competing factions—the Horde and the Alliance—as each battles the other and as they both engage foes in the world, from dragons and deities to undead armies and dark ephemera.

WoW was chosen as the context for this investigation because it presents opportunities for players to be affected by content change in two ways. First, the gameworld was stable and persistent for many years and its players had ample opportunity to develop strong understandings of, skills with, and attachment to game content (see King, Delfabbro, & Griffiths, 2010). Second, in-game text chat is highly social, and for some players, chat takes up a large portion of collaborative play time (Suznjevic, Dobrijevic, & Matijasevic, 2009). This interaction can also be an important way of learning how to play the game and navigate complex spatial and social landscapes (Nardi, Ly, & Harris, 2007).

Blizzard Entertainment—developer of WoW—had, at the time of last data collection, released five game expansions, with the first released in 2007, three years after the game’s inception. For this study, we examined chat expressed on the day that the most dramatic changes were introduced for each of three expansions. In all expansions, there were shifts in the game’s narrative, new quests and raid content, changes to gameplay mechanics, and new opportunities to increase character strength and ability. In addition to these ludic and content changes, each expansion featured a hallmark change that significantly altered the environmental, cultural, or relational characteristics of the gameworld.

Cataclysm: Environmental Change. Cataclysm, a 2010 expansion, was the most dramatic in its changes to the environment, and mirrored natural disasters, including floods, volcanic eruptions, and fires, which permanently altered game landscapes that had been unchanged since the game’s inception. The expansion included considerable changes to locations of resources, play mechanics, and travel patterns, forcing players to re-learn how to perform many of the game’s most basic activities.

Mists of Pandaria: Cultural Change. The 2012 Mists of Pandaria (MoP) expansion introduced a new avatar race and class (amalgams of Asian cultural tropes), as well as a new region, generating a sociocultural change to the game. Unlike other WoW races, which are unique to either Alliance or Horde, the new “Pandaren” could be played as either faction. Thus, MoP changed a core dimension of player identity and differentiation because players divided by faction were simultaneously linked through avatar race.

Warlords of Draenor: Relational Change. The changes in 2014’s Warlords of Draenor (WoD) redesigned most playable avatar models to be more detailed and fluid, and dramatically adjusted fighting mechanics. This expansion had a profound impact on player perceptions of the gameworld in relation to their avatars (Banks, 2017), such that the expansion could be said to have introduced a *relational* change in how they may connect with their avatars as social others.

Data Collection

On the first day of each expansion or pre-expansion patch, public chat was logged for 90 minutes during high-traffic evening hours for both factions. For the first expansion, chat was recorded on a mid-population player-versus-player (PvP) server; for the second and third expansion, chat was recorded on a high-population PvP server, due to a decrease in population and activity on the original server (the shift in server is a limitation of this study). Researchers positioned an avatar in each faction’s major city and used a WoW user interface modification called Elephant (Curse, n.d.) to log two chat channels: 1) “Trade Chat,” commonly used for commerce, social,

and collaborative chat, and 2) "General Chat," a generic channel intended for miscellaneous exchanges. The six chat transcripts were then filtered to remove two types of "mundane" communication because they were unrelated to the expansions. First, messages related to finding other players to join in group battles were removed, although we retained more social inquiries such as "Hey, does anyone want to run ICC with us?" Second, advertisements by players selling items in the game's auction house were removed. All other chat was retained.

The volume of chat across the six datasets was dramatically unbalanced, ranging from 310 lines to more than 2,000 lines during the 90 minutes. To address this imbalance, 310 lines of chat were purposively selected from the larger data sets, resulting in 1,860 total lines of chat analyzed. These were selected as successive lines of chat beginning at approximately the same server time (~5:30 p.m.) because random sampling would have taken the chat out of context and made coding unreliable.

Data Analysis

Each line of chat was coded for four features (topics, change mentions, vulnerability expression, resilience expression).

To address RQ₁, open coding was conducted for the topic of each line of chat, inductively assigning labels to chat content topics (see Braun & Clarke, 2006). The 107 open codes (e.g., insults, character customization, quests, or leveling), were cross-referenced and collapsed into 16 higher-order codes that were then grouped into 6 final categories (see Table 1). Then, each line of chat was coded for whether or not it was a direct reference to a game change. A line of chat was coded as mentioning a game change if it was related to alterations in game content or mechanics that were documented in the developers' patch or expansion release notes. Response mentions of game change were also coded as change-related if they contained material information. For example, if a player asked "Guys how do I get back to Pandaria?" the response "portal at the panda building" was coded as change-related. Simple responses of "yes" or "no," or vague commentary such as "lol" were not coded as change-related. Care was taken to identify accurate question/response and statement/commentary coding, given the prevalence of conversational lag, multitasking, and overlap in synchronous chat.

To address RQ₂ and RQ₃, lines of chat previously coded as mentioning game changes were coded for the presence or absence of two types of risk response: 1) expressed *vulnerability* as perceived susceptibility to harm (Adger, 2006); and 2) *resilience* as perseverance, or tolerance of, persistence through, or adaptation to change (Adger, 2006; Carpenter et al., 2001). These codes were not mutually exclusive.

Coding was completed by one of the researchers and an independent coder familiar with the gameplay and language of WoW. To assess intercoder reliability, the two coders coded an identical 10% subset of each data set (180 chat lines total)

Table 1
Topic Categories, Codes and Topics by Percent of Chat Mentions

Topic category	Topic code	Inclusive chat topics
Avatars (27.2%)	Avatar appearance (11.3%)	Appearance, race, customization, gear
	Avatar combat (10.9%)	Class, talents, statistics, balance, role
	Avatar skills (5.0%)	Professions broadly, specifically
Social (27.1%)	General social talk (15.1%)	Banter, greetings, emoting, conflict
	Trolling (10.6%)	Disruptive jokes, insults, sarcasm
Gameworld (21.2%)	Groups discussion (1.4%)	Guilds, factions, raid groups
	Transportation (9.1%)	Portals, flying, logistics
	Non-player characters (7.2%)	Vendors, locations, functions, resources
	Environment (4.9%)	Cities, zones, features, events, lore
Gameplay (10.9%)	Game structures (9.0%)	Dungeons, raids, quests, leveling
	Rewards (1.1%)	Titles, achievements, rewards
	Currency (.8%)	Gold, valor points, justice points
Meta talk (7.0%)	Change phenomena (4.9%)	Expansions, patch notes, release dates
	Game-as-game (1.5%)	Game status, subscriptions, streaming
	Life concerns (.6%)	Jobs, family, school
Technology (6.6%)	Interface/Tech (6.6%)	Interface, add-ons, glitches, lag, queues

and met acceptable levels for latent variables for chat topic ($\alpha = .74$), change mention ($\alpha = .65$), and vulnerability responses ($\alpha = .74$). Resilience responses did not meet the threshold, however, at $\alpha = -.07$, in spite of an 85.9% raw agreement rate. This is likely because resilience occurred in less than 5% of chat lines, and Krippendorff's α sometimes produces artificially low values in cases where a phenomenon is infrequent (Cicchetti & Feinstein, 1990; Feinstein & Cicchetti, 1990). We explore resilience results here, but they should be interpreted with caution. To identify differences in chat mentions across groups, chi-square tests were used, with significance set at $p \leq .05$.

Results

Reductive coding resulted in the identification of 16 codes across 6 code categories (see Table 1). Among the 1,860 analyzed chat lines, talk about avatars was most prevalent (27.2%), followed by general social exchanges (27.1%), and talk about the gameworld (21.2%).

Change Mentions in Expansion Chat

Change was mentioned in 60.3% of chat lines overall ($n = 1,122$); the percentage of chat addressing change was significantly greater in Horde chat (66.0%) compared to Alliance chat (54.6%) ($\chi^2(1, N = 1860) = 25.24, p < .001$). Table 2 shows percent of change mentions by topics discussed. Combining factions, change was most likely to be mentioned when discussing avatars (81%, $n = 414$) or the gameworld (80.2%, $n = 394$) ($\chi^2(5, N = 1,860) = 591.73, p < .001$). Topics differed significantly by faction ($\chi^2(5, N = 1,860) = 290.68, p < .001$): Alliance change chat was more likely to be in discussions of avatars and the gameworld, and Horde change chat was most likely as part of meta talk and avatar topics.

Vulnerability and Resilience Response to Change

Risk response to a change—either vulnerability or resilience—was mentioned in 14.4% ($n = 267$) of analyzed chat lines. Vulnerability was present in 14% of change mentions ($n = 160$), and varied significantly by topic category ($\chi^2(5, N = 1,131) = 25.14, p < .001$), with players most likely to express vulnerability about technology topics and secondarily about gameplay and avatars (see Table 3). A review of qualitative data suggests that vulnerability responses tended to reflect concern about constraints (e.g., having to be a certain level to use a game feature), removed or imbalanced abilities (e.g., being at the mercy of mages for transportation once portals were removed), diminished or eliminated resources (e.g., trainers or

Table 2
Change Mention Frequency by Topic Category

Topic category	Aggregate	Alliance	Horde
Avatars	81% ($n = 414$)	80.9% ($n = 161$)	82.4% ($n = 253$)
Social	16.1% ($n = 81$)	13.7% ($n = 39$)	19.1% ($n = 42$)
Gameworld	80.2% ($n = 394$)	74.4% ($n = 151$)	86.4% ($n = 165$)
Gameplay	63.6% ($n = 129$)	65.9% ($n = 83$)	59.7% ($n = 46$)
Meta talk	75.6% ($n = 99$)	67.5% ($n = 52$)	87.0% ($n = 47$)
Technology	68.0% ($n = 83$)	53.7% ($n = 22$)	75.3% ($n = 61$)

Table 3
Risk Response Prevalence by Chat Topic Category

Topic category	Vulnerability	Resilience
Avatars	15.0% (<i>n</i> = 63)	11.2% (<i>n</i> = 47)
Social	3.8% (<i>n</i> = 3)	7.6% (<i>n</i> = 6)
Gameworld	10.3% (<i>n</i> = 33)	6.0% (<i>n</i> = 19)
Gameplay	18.5% (<i>n</i> = 24)	7.7% (<i>n</i> = 10)
Meta talk	14% (<i>n</i> = 14)	14.1% (<i>n</i> = 14)
Technology	27.4% (<i>n</i> = 23)	17.9% (<i>n</i> = 15)

currency), and invalidated knowledge or skill (e.g., being lost in a city or having one's class reduced in power).

Resilience was present in 9.5% of change mentions (*n* = 107) and varied significantly by topic category ($\chi^2(5, N = 1,129) = 15.64, p = .008$). Players were most likely to express resilience in relation to meta talk and avatars. Qualitatively, resilience responses tended to address adaptation (e.g., learning new combat systems, using add-ons to accomplish tasks), acknowledging the good in change (e.g., the world being more interesting), confidence in players' ability to overcome ludic challenge (e.g., killing an elite NPC), and acknowledging the game as a game (e.g., instructing others to get over it or unsubscribe). Neither the prevalence of vulnerability nor of resilience response varied significantly by faction.

Vulnerability and Resilience Response by Expansion

Vulnerability differed by expansion ($\chi^2(2, N = 1131) = 17.36, p < .001$), with players most likely to express vulnerability in WoD. Vulnerability responses were not significantly different by topic within Cataclysm chat, but were in MoP chat (see Table 4; $\chi^2(5, n = 337) = 17.91, p = .003$) and WoD chat ($\chi^2(5, n = 375) = 12.91, p = .024$). In both MoP and WoD, players most frequently expressed vulnerability in relation to avatars. It is useful to also consider the percentage of risk and resilience responses within each chat topic. In MoP, vulnerability expressions were most prevalent for technology-related chat (one-third of all technology mentions), and in WoD, vulnerability expressions were most prevalent in gameplay-related chat.

Resilience differed by expansion ($\chi^2(2, N = 1129) = 6.77, p = .034$), with players also most likely to express resilience in the WoD expansion. For expansions independently, resilience responses were not significantly different by topic for Cataclysm or WoD, but were for MoP ($\chi^2(5, n = 337) = 14.94, p = .011$). In MoP, players most frequently expressed resilience in relation to avatars. Among chat topics in MoP, resilience expressions were most prevalent in discussions of meta topics, making up nearly 28% of those discussions.

Table 4
Risk Response Prevalence for Expansions—Percentage of Expressions by Chat Topic

	Cataclysm (Environmental)		MoP (Cultural)		WoD (Relational)	
	Vulnerability	Resilience	Vulnerability	Resilience	Vulnerability	Resilience
Overall	12.6% (n = 53)	8.4% (n = 35)	9.5% (n = 32)	8.0% (n = 27)	20% (n = 75)	13.1% (n = 49)
Avatars	11.2% (n = 13)	10.4% (n = 12)	11.7% (n = 14)	10.0% (n = 12)	19.7% (n = 36)	12.5% (n = 23)
Social	11.8% (n = 2)	0.0% (n = 0)	0.0% (n = 0)	5.5% (n = 2)	3.8% (n = 1)	15.4% (n = 4)
Gameworld	13.1% (n = 26)	7.5% (n = 15)	6.9% (n = 6)	2.2% (n = 2)	3.7% (n = 1)	7.4% (n = 2)
Gameplay	5.0% (n = 1)	0.0% (n = 0)	12.7% (n = 7)	9.1% (n = 5)	29.1% (n = 16)	9.1% (n = 5)
Meta talk	12.2% (n = 6)	8.2% (n = 4)	0.0% (n = 0)	27.8% (n = 5)	24.2% (n = 8)	15.6% (n = 5)
Technology	27.8% (n = 5)	22.2% (n = 4)	33.3% (n = 5)	6.7% (n = 1)	25.5% (n = 10)	19.6% (n = 10)

Discussion

Analysis indicated that players do use public chat to discuss the change in game expansions, and this discussion constitutes a majority of non-trade and non-grouping chat. They most frequently discuss avatars and gameworld issues and engage in change-related social talk (RQ₁), in which they express both vulnerability and resilience (RQ₂). Vulnerability is more prevalent and is more likely to be expressed in chat about technology, gameplay, and avatars; resilience is more likely to be expressed in chat about technology, meta issues, and avatars. Expressions of vulnerability and resilience vary by expansion and by topic within some expansions (RQ₃). Differences in the topics where change was discussed may be due to the nature of the expansion: in expansions characterized by cultural and relational changes (MoP and WoD) players expressed vulnerability to avatar changes, and players met cultural change (MoP) with expressed resilience to meta and avatar issues.

Findings suggest that change-oriented chat becomes the dominant discourse in in-game channels during expansions, mirroring the agenda-setting influence of “focusing events” (e.g., disasters, accidents) in policy discourse (see Birkland, 1998). The focusing events of game changes may reinforce players’ experiences of change: not only do they encounter change directly during gameplay, but they also encounter other players’ expressions of vulnerability and resilience. For example, a player expressed confusion after Cataclysm saying, “wow i feel like a noob soo many [sic] new shit.” Notably, much of the social chat addressing change constituted trolling or mockery—especially in response to repeated requests for information or assistance—suggesting that direct and indirect exposures to change may lead to frustration and antisocial behavior. Some expressions of confusion were met with admonishment, such as, “Deal with it, ya pansy \$%^.” Alternately, this trolling could be interpreted as an implicit—though antisocial—resilience response, as some players attempt to introduce levity or novelty in the face of other players’ conspicuous stress or confusion (Shachaf & Hara, 2010). For example, two players mocked those who were having trouble finding transportation portals in the MoP expansion, as one said “even if BLIZZ put a huge bullseye where the portal was on the map? People would still ask every two minutes.” The second followed, “LOL ‘Please don’t make me think.’” They highlighted their own knowledge and adaptability in the face of change that confused others.

Resilience and vulnerability, then, may be responses to both game changes and player reactions to those changes, as one player chided resiliently: “dude stop trollin, your [sic] inneruptin my find out shit time.” Further, there may be (sub)cultural differences in how players socially manage change, as suggested by faction differences in chat topics, broadly. For example, the tendency of Alliance players to discuss change related to in-game elements—versus Horde’s greater meta talk—may be interpreted as cultural differences between factions, or even as a function of server culture.

Player expressions of both vulnerability and resilience to interface and avatar changes can be understood in terms of tensions in player and game agencies.

Player agency over avatar actions and interface functions (including use of in-game options and player-created add-ons) is threatened by changes to how the game displays information, how game objects and avatars function, and even gameworld aesthetics (Giddings, 2007). For instance, one player expressed confusion about changes made to player classes in the Cataclysm expansion saying, “can somebody go and research my class and then answer my stupid f**ing question? im [sic] too lazy to not be spoon fed like the retard i am.” Therefore, the risk and constraints introduced by game changes are related to both player choices and game-provided rules and environments. Notably, avatars were the most frequent topic during change periods, for change mentions, and for both risk and resilience expressions. These patterns speak to the centrality of the avatar as a locus of risk perception and response (Lovaas, 2015).

Risk response diverged for two topic areas. Players expressed vulnerability (but not resilience) to changes in gameplay, suggesting there is greater uncertainty and ambiguity associated with game developers’ governance over the ludic dimensions of play. Players expressed resilience (but not vulnerability) in relation to meta concerns, often responding to concerns with the notion that WoW is “just a game” and that worried players should “grow up” and deal with the change. Some players posed to others an ultimatum: “lifes hard stop complaining and do something about it” or “quit - you’re not going to hurt their revenue.” Others responded to player confusion by blaming the players, such as one who said, “thats what all nerds say who r jelly they suck at ta game.”

Together, these findings suggest that where players perceive low levels of agency inside the game, they may express rationalizations of game changes through extra-game lenses to reduce senses of vulnerability or may temporarily diminish the status of the game to minimize perceived gravity of the vulnerability. This suggests that increasing the semantic distance between the digital and the physical could be an important social coping mechanism against game-related vulnerability. By implication, not only may players escape to digital spaces to cope with physical-world challenges (see Kardefelt-Winther, 2014), they may also withdraw to physical space to cope with changes to a gameworld change.

More generally, these results illuminate how the reconfiguration of narrative and technical structures intersects with player communication about those changes to influence how players navigate change. This convergence highlights the role of public communication in risk response behaviors and emphasizes how social processes can be understood not only as outcomes of environmental change, but key components of it. In other words, players are not simply responding to change in the technological configuration of a digital space, they are also responding to and interacting with others’ interpretations and constructions of that change.

Limitations

The present exploratory study has several limitations. First, our findings and claims are limited to public chat in only a few North American servers for a short period of

time. The patterns we observed may be different on different servers, such as those in different geographical regions, in different chat spaces (e.g., guild or private chat), or outside the game (e.g., in game-related forums). Second, as reliability on resilience coding was low and coded instances were infrequent, resilience analyses should be interpreted with caution. Third, although the changes introduced in these expansions were extensive, some players may not have experienced changes as new on the days data were collected, since beta-testing environments already include the changes and blogs and forums often preview and analyze these changes. Extra-game communication channels—along with additional in-game channels such as guild chat and voice-over-IP player discussions—may represent important spaces for dealing with risk response to game changes. Additional research is needed to determine if cultural differences, extended exposure to change, prior knowledge, and multi-channel communications may influence patterns of risk response.

Future Research

Future research should address a number of questions raised by the present study. For example, how do risk responses unfold over time—evolving, resolving, or escalating? Are there patterns in the types of resilience—perseverance versus adaptation—and do they correspond to different perceptions of risk? Does a turn to meta talk transform the nature of play inside the game? In many MMOs, including *WoW*, players may mute public channels such as those analyzed here—are there differences in how those who do and do not attend to public chat express resilience and/or perceive the risks associated with change? Theoretically, these notions may inform broader understandings of the role of materiality and coping in real life, especially as the avatar serves an expressive and functional bridge—as well as a risk locus—between the physical player and the digital gameworld. Further research in how people cope with changes to digital landscapes may provide insight about how they resolve risk in the physical world.

Conclusion

This exploratory study examined public, in-game MMO chat to investigate how large-scale changes in multiplayer game environments and rules are negotiated by players through public expressions of vulnerability and resilience. Study findings suggest that risk response in interactive media may be subject to the same psychological processes as risk response in physical environments. In such environments, however, these processes should be examined in terms of the interplays between the social and technical dimensions of change and risk perception, especially as manifested in tensions between player and game agencies. These insights may also extend to other interactive media, since social media user experience is increasingly subject to such shifts as format and function evolutions, and emerging language and cultural norms and language. Lastly, findings suggest that social and technical affordances of

immersive digital game environments (such as a common communication spaces and semantic devices for discussing change as bounded and manageable) could be important mechanisms for coping with large-scale, physical-world change.

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ORCID

Jaime Banks  <http://orcid.org/0000-0002-7598-4337>

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The Stubborn Pervasiveness of Television News in the Digital Age and the Field's Attention to the Medium, 2010–2014

Nicholas W. Robinson, Chen Zeng & R. Lance Holbert


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The Stubborn Pervasiveness of Television News in the Digital Age and the Field's Attention to the Medium, 2010–2014

Nicholas W. Robinson, Chen Zeng, and R. Lance Holbert

A secondary analysis of 2010–2014 World Values Survey (WVS) data (N = 81,229) is performed across 56 countries to assess frequency of exposure to television news versus the Internet and mobile phone as information sources. A large majority of the comparisons (105/112; 93.75%) reveal television to be used more frequently than Internet or mobile phones ($p < 1.0E-09$). A content analysis of works published in 9 communication journals from 2010 to 2014 indicates a precipitous decline in the attention political communication scholars are giving to television. Meanwhile, there is substantial growth in the focus on new media.

Outstanding scholarship is being produced regarding a variety of digital media technologies within the context of politics (e.g., Bennett, 2012; Campbell & Kwak, 2010; Kaufhold, Valenzuela, & De Zuniga, 2010; Wojcieszak & Mutz, 2009). However, the rise of digital media has not resulted in the creation of a mediumless environment prognosticated with the coming of the digital revolution (Negroponte, 1995).

There is no question certain traditional media industries (e.g., newspapers) have incurred financial hardship as a result of the rise of digital media (see Meyer, 2009; Siles & Boczkowski, 2012), and with these hardships has come movement to the digital environment (Domingo et al., 2008). However, other traditional media industries (e.g., television) are thriving in the digital age (see Wolff, 2015), and these media remain influential in determining the outcomes of various political processes across the globe (e.g., Aalberg & Curan, 2012; Dimitrova & Stromback, 2012; Hopmann, Vliegthart, DeVreese, & Albaek, 2010; Kenski, Hardy, & Jamieson, 2010).

Nicholas W. Robinson (M.A., Texas Tech University) is a doctoral student in Media and Communication at Temple University. His research interests include the evolution of political media and the merging of entertainment and political content.

Chen Zeng (M.A., Hong Kong Baptist University) is a doctoral student in Media and Communication at Temple University. Her research interests include media effects, political communication, and science communication.

R. Lance Holbert (Ph.D., University of Wisconsin-Madison) is professor and chair of the Department of Communication and Social Influence, School of Media and Communication, Temple University. His research interests include political communication, persuasion, and media influence.

The unpredictable evolution of the media landscape underscores the importance of Bennett and Iyengar's admonition that political communication research should "reflect prevailing social and technological patterns" (2008, p. 707). Despite the rapid proliferation of digital technologies, television remains at the core of today's political media environment (Webster, 2005). Although a focus on the effects, uses, and implications of new technologies is important (Holbert, Garrett, & Gleason, 2010), a parallel shift of attention away from television risks limiting the field's theoretical and heuristic value. If research agendas drift too far from the practices of today's communicators and their audiences, "the validity of results will be in serious question" (Bennett & Iyengar, 2008, p. 707).

A secondary analysis of 2010–2014 World Values Survey (WVS) data (World Values Survey, 2016) is undertaken to compare the frequency of television news exposure to obtaining information through the Internet or mobile phone technologies, respectively. Separate analyses are run for 56 countries (total $N = 81,229$). In addition, a content analysis of all works published in nine communication journals from 2010 through 2014 assesses the degree to which television and new media are given primary attention in media-based, quantitative, social scientific scholarship devoted to the study of political communication. Insights generated from these efforts speak to the stubborn pervasiveness of television in the digital age and raises questions about the degree to which the field is producing sufficient and appropriate levels of knowledge about this important information source.

Television as a Dominant Source for Political Information

A number of empirical studies based on data collected in the United States provide strong evidence that television news is still a prominent source for political information, even in a more digitally engaged, high-choice media environment. Althaus and Tewksbury (2000) found the amount of time people spend seeking political information on the Internet does not reduce the amount of time spent watching television news programs. In a similar vein, examining 2008 Cooperative Campaign Analysis Project (CCAP) survey data, Gaskins and Jerit (2012) found that although the Internet was replacing traditional media outlets such as newspapers and radio, it did not decrease the amount of time people spent watching television for political information. In fact, 75% of respondents reported using television as a source of information "about the same amount of time or more since they started using the Internet" (p. 206).

Analyses of National Annenberg Election Study (NAES) data have revealed weekly television news exposure is higher than both newspaper and online news consumption for a combination of the 2000 and 2004 election cycles (see Althaus, Cizmar, & Gimpel, 2009). The 2000 National Annenberg Election Survey estimated that between 85 and 110 million Americans watched the nightly news on an average weekday (see Prior, 2009). Another national survey—the 2006 American National Election Study (ANES) pilot study—found exposure to television news was much higher than exposure to newspaper and Internet news (Althaus & Tewksbury, 2007).

A more recent report from the Pew Research Center (2015) supports the claim that even though the Internet and mobile devices are being used increasingly as news sources, television remains a popular source of news. Viewership of local TV news and network TV news both increased from 2014 to 2015. Local TV evening newscasts enjoyed 3% audience growth; local TV morning newscasts enjoyed 2% audience growth; network TV evening news programs experienced 5% audience growth; and network TV morning news programs experienced 2% audience growth.

Studies using data collected in Europe offer similar results. Using five waves of the European Social Survey (ESS) data from 2002 to 2010, Aalberg and colleagues found most European countries experienced only a slight decrease in the total time people spent watching television news. However, people still spent 28 (Switzerland) to 55 minutes (Denmark) on an average weekday watching TV news or programs about politics and current affairs (Aalberg, Blekesaune, & Elvestad, 2013). Dutch people-meter data from 1988 to 2010 have revealed the Dutch “spent increasingly more time watching news, with average durations of 61 minutes per week in 1988 to 103 minutes in 2010” (Wonneberger, Schoenbach, & Van Meurs, 2012, p. 63).

Similar patterns exist in data collected outside the United States and Europe. In Mexico, broadcast television is still the primary source for news, with nearly half of the public reporting some level of TV news exposure for 3 to 5 days per week (Lawson & McCann, 2005). In a national survey of media use in South Korea, respondents reported a higher frequency of watching TV news than either newspaper reading or Internet use (Kim, 2008). In a recent survey of Fijians, 100% of the population reported watching TV news, and 65.2% of men and 63.6% of women reported watching TV as their primary source of news (Hermanson, 2007). In Bangladesh, television viewership is growing at a rate of 15 to 20 percent per year. Television news is the single most popular program type in the country, with 66% of Bengalis tuning in on a daily basis (Andaleeb, Rahman, Rajeb, Akter, & Gulshan, 2012). These isolated cases are just a few examples of what appears to be a global phenomenon.

The idea that the rise of the digital age brings with it an immediate decline in television influence is grounded partly in a time-displacement argument—increased use of new media will result in a corresponding decrease in use of traditional media. While retaining some intuitive value, initial claims of time-displacement rarely receive empirical support (e.g., Moy, Scheufele, & Holbert, 1999). Holbert and Benoit (2009) argue it is important to treat varied forms of political media consumption as being complementary to one another, rather than envisioning one form of communication competing with all other forms for influence. Complementary relationships between political media information sources have been shown to manifest themselves in various mediation-based processes of influence (e.g., Holbert, 2005), in raw exposure data (e.g., Nielsen, see Webster, 2007), and network analyses (e.g., Weeks, Ksiazek, & Holbert, 2016). Once more, the television industry has built adaptive business models that have led it to remain highly profitable, even with the rise of digital media platforms (Wolff, 2015), allowing the medium to remain a distinct entity within the media environment while incorporating various new media

elements (e.g., on-demand viewing). Given the preponderance of empirical evidence revealing television to be a dominant source for political information and that the coming of the digital age should not signal the immediate fall of this dominant medium as a result of time-displacement, the following is posited:

H₁: Television news is used more frequently as a political information source than (a) the Internet and (b) mobile phones.

Communication's Attention Given to Television as Political Information Source

During points of transition, it is important for fields of study to devote some time and attention to reflecting on the knowledge they have generated to date in order to develop an appropriate plan for future research (see Herbst, 2008). It is clear the field of political communication is wrestling with how best to move forward with the questions it wishes to ask (see Bennett & Iyengar, 2008; Holbert et al., 2010). Given the unique mix of traditional and emerging media that constitutes today's information environment, where should the field of political communication be shining its empirical lens? What mixture of attention should be given to traditional versus emerging media? In order to address these questions, there needs to be an assessment of the field's resources (e.g., journal pages) devoted to the study of various types of politically oriented media engagement. Given this study's focus on television relative to new media, the following queries are presented:

R_{Q1}: What level of attention across time is the communication field giving to television news as a political information source?

R_{Q2}: What level of attention across time is the communication field giving to new media as a political information source?

Method

Survey

WVS Data. The WVS is described as "a global network of social scientists studying changing values and their impact on social and political life." The WVS survey was first conducted in 1981 and is described as "the largest non-commercial, cross-national, time series investigation of human beliefs and values ever executed." Principle investigators (PIs) working in a given country obtain funding to collect a representative sample of at least 1,000 respondents (all PIs use some form of stratified random sampling methodology). Face-to-face interviewing is the dominant means of data collection, but phone interviews are conducted for individuals who live in remote areas. All investigators work with the same baseline survey, but are afforded an opportunity to

add or discard specific items with cause. WVS data have been utilized widely across the social sciences and, more specifically, within the field of communication (e.g., Hanitzsch & Berganza, 2012; Shen & Guo, 2013; Tsfaty & Ariely, 2014).

This study adopts the Wave 6 WVS data set, representative of all data collected from 2010 through 2014 ($N = 59$ countries). The following is a breakdown of number of countries by the year within which a survey was in the field: 2010 ($N = 3$), 2011 ($N = 19$), 2012 ($N = 17$), 2013 ($N = 10$), and 2014 ($N = 7$). The total sample size for the aggregate 2010 to 2014 WVS survey is 85,070. Surveys conducted in three countries (Spain, Morocco, Hong Kong) did not ask the media items of interest to this study (total $N = 3,389$). This reduction results in an effective initial total sample size of 81,681. The largest sample is South Africa ($N = 3,351$) and the smallest is New Zealand ($N = 841$).

Measures. The WVS-Wave 6 survey offered the following statement: "People learn what is going on in this country and the world from various sources. For each of the following sources, please indicate whether you use it to obtain information daily, weekly, monthly, less than monthly, or never." WVS media exposure items were originally coded as 1 = *daily* to 5 = *never*. All items were reverse coded for ease of presentation, i.e., 1 = *never* to 5 = *daily*. Respondents were asked to address the question in accordance with eight distinct sources: (1) daily newspaper, (2) printed magazines, (3) TV news, (4) radio news, (5) mobile phones, (6) email, (7) Internet, and (8) talk with friends and colleagues. To test H_{1a} and H_{1b} , three news sources were selected for comparison: TV, mobile phones, and Internet. Given this work's focus on TV versus new media, printed magazines, newspapers, radio news, e-mail, and talk with friends/colleagues items were not used for comparison.

Missing Values. A total of 168 survey-based items were analyzed in this study (3 political information seeking items \times 56 countries). A large percentage of these items ($N = 158$; 94.1%) retain less than 3% missing values. A multiple-imputation hot deck procedure for addressing missing values outlined by Myers (2011) was employed. Three exogenous variables were used for the hot deck procedure: biological sex, age, and life satisfaction. All missing value replacements were conducted within country, not for the entire 2010–2014 WVS data set. The within-country procedures undertaken resulted in a shift from an initial listwise deletion N of 78,632 to a post-hot deck total listwise deletion N of 81,229. The total number of subjects across all countries with one or more missing values for the information seeking items is 452 (0.01% of total sample). These 452 respondents were excluded from the analyses.

Analyses. While it is common for communication scholars to treat ordinal-level measures (e.g., Likert-type scaled items, semantic-differential scales) as "quasi-interval" in order to utilize a broad range of parametric tests (Hayes, 2005), the sequential ordering of the WVS political information-seeking items retains clear time differences between points. As a result, it is difficult to argue for the treatment of these items as "quasi-interval." Additionally, normality assumptions with parametric tests are cause for

concern for this study. Ubiquity for the TV News item would manifest itself in high skewness and a leptokurtic distribution (i.e., an abnormally high peak). If the WVS political information seeking items were to be treated as “quasi-interval,” then the most appropriate parametric assessment would be a series of paired-sample *t*-tests. The non-parametric alternative to the paired-sample *t*-test is the Wilcoxon matched pairs signed rank test (Randles, 2004). To test the hypotheses, a total of 112 Wilcoxon matched pairs signed rank tests were conducted for this study (56 countries X 2 within-country comparisons [TV-Internet, TV-Mobile Phone]).

Statistical Power and Alpha Level. The setting of a proper alpha level for the comparisons was conducted using GPower (Faul, Erdfelder, Buchner, & Lang, 2009). The desired power level is .80 (Cohen, 1988). The sample size used for this assessment is the median of the 56 samples, 1,288. Finally, we used a small-to-moderate effect size for the post-hoc power assessment, $d_z = .20$. We were able to estimate that a two-tailed Wilcoxon test has sufficient power to detect this effect size with the median N at $p < 1.0E-07$. We then used a Bonferroni correction by dividing this alpha level by the number of comparisons to be analyzed (i.e., $N = 112$) in order to protect against Type I error. This adjustment results in a final alpha level of $p < 1.0E-09$ for the survey-based analyses.

Content Analysis

The focus of the content analysis is on assessing the prominence and frequency of studying television and new media as information sources in a range of communication outlets that publish political communication research. A total of nine journals were analyzed: *Communication Monographs* (CM), *Communication Research* (CR), *International Journal of Press/Politics* (IJPP), *International Journal of Public Opinion Research* (IJPoR), *Journal of Broadcasting and Electronic Media* (JoBEM), *Journal of Communication* (JoC), *Journalism and Mass Communication Quarterly* (JMCQ), *Political Communication* (PC), and *Public Opinion Quarterly* (POQ). All journal articles published in all 2010–2014 issues of these journals were content analyzed for this study.

Unitizing. The unit of analysis for the study is the article. First, two coders determined whether a specific article met three criteria. For inclusion in the study, an article needed to focus on (1) media (could be audience-, content-, or effects-based research); (2) political communication, and (3) employ the use of any of a wide range of quantitative, social scientific methodologies. The definition of political communication used for this study comes from Perloff (2014): “Political communication is the process by which language and symbols, employed by leaders, media, and citizens, exert intended or unintended effects on the political cognitions, attitudes, or behaviors of individuals or on outcomes that bear on public policy of a nation, state, or community” (p. 30). An article needed to be coded in the affirmative for all three criteria to be included in the list of pieces for formal coding.

A list of all 2010–2014 issues of the nine journals was created in Microsoft Excel and 10% of the issues were selected via a random number generator for the assessment of unitizing reliability. Two coders rated each article within each of the chosen issues along the three criteria. Each criterion was a simple dichotomous measure of “yes” or “no.” Those articles generating three “yes” codes were given a “1” and any article with a “no” was given a “0.” Inter-coder reliability of the unitizing was assessed with Krippendorff’s Alpha using an SPSS macro constructed by Hayes and Krippendorff (2007). The two coders proved highly reliable in their unitizing coding (Krippendorff’s $\alpha = .89$). The third author made final determinations concerning article inclusion for those works where there was disagreement between the two primary coders. Once inter-coder unitizing reliability was established, the remaining 90% of the 2010–2014 journal issues were distributed equally and randomly between the two coders for completion of the unitizing process.

Articles. The entire unitizing process produced a total of 619 articles to be content analyzed, with sufficient variance across outlet and year (see Table 1). Of these, 11 articles were methods pieces. With dominant within-region country *N* shown in parentheses, a listing of studies by regions of the globe is as follows: 1) North America, *N* = 376 (United States, *N* = 370); 2) European Union, *N* = 104 (Netherlands, *N* = 20); 3) Asia, *N* = 30 (South Korea, *N* = 19); 4) Middle East/North Africa, *N* = 13 (Israel, *N* = 8); 5) Latin America, *N* = 10 (Colombia, *N* = 5); and 6) Global/Multi-Regional/Other, *N* = 75. Three outlets (JoC, JMCQ, and PC) published more than 100 works from 2010 through 2014 that met our criteria, while several outlets (e.g., CM, POQ) offered far fewer articles

Table 1
Media-Centered Political Communication Journal Articles—Quantitative Social Science

Journal	2010	2011	2012	2013	2014	Total
CM	1	1	4	1	1	8
JoBEM	8	14	14	18	19	73
JoC	19	20	28	23	22	112
JMCQ	13	29	20	22	22	106
CR	3	13	12	14	15	57
PC	15	17	20	24	26	102
IJPP	14	12	15	17	14	72
POQ	2	8	8	6	11	35
IJPOR	11	7	13	14	9	54
Total	86	121	134	139	139	619

Note. CM = *Communication Monographs*; JoBEM = *Journal of Broadcasting and Electronic Media*; JoC = *Journal of Communication*; JMCQ = *Journalism and Mass Communication Quarterly*; CR = *Communication Research*; PC = *Political Communication*; IJPP = *International Journal of Press/Politics*; POQ = *Public Opinion Quarterly*; IJPOR = *International Journal of Public Opinion Research*. Year-by-# of articles zero-order $r = .77$; linear curve estimate, $F [1, 3] = 9.92, p = .051$.

of this kind. There is a clear upward trend across years for the total number of political communication-based works utilizing social scientific methods to study media. The 2014 total represents a 61% increase from the 2010 total. In addition, there is a positive correlation between year and total number of articles within year (zero-order $r = .77$; linear curve estimate, $F [1, 3] = 9.92, p = .051$).

Content Assessment. Once the 619 media-centered, social scientific, political communication articles were identified, the same two coders conducted a content analysis of the titles and abstracts of each article focusing on a single four-category, nominal-level variable. The coders classified all 619 articles as (1) television as primary, (2) new media as primary, (3) television and new media treated equally, and (4) other. Media multitasking works were coded as being a combination of television- and new media-centric in our analyses (article code = 3). A random selection of 20% ($N = 123$) of the articles were isolated for the purposes of inter-coder reliability assessment. The two coders achieved strong reliability for the single variable (Krippendorff's $\alpha = .83$). The third author provided the decision-making rules to resolve coder disagreements.

Analyses. To address this study's two research questions, zero-order correlation and linear trend analyses are conducted to assess the movement of TV-dominant and new media-dominant research across years.

Results

WVS Secondary Analysis

A vast majority of comparisons (105/112, 93.75%) revealed the frequency of television news consumption to be greater than the Internet or mobile phones as information sources at the $p < 1.0 \text{ E-}09$ alpha level.

Internet Comparisons. There is strong support for television news being used more frequently than the Internet as a source for public affairs information (H_{1a}). Fifty-four of the 56 comparisons (96.4%) were statistically significant at the $p < 1.0\text{E-}09$ alpha level. The statistically significant results ranged from the United States ($z = -6.13$) to South Africa ($z = -46.20$). In the United States, 33.9% of respondents report using TV more frequently than the Internet as an information source, 39.8% reporting using the pair of information sources equally, while only 26.3% report using the Internet more than TV for this purpose. For South Africa, 75.1% of respondents report using television more than the Internet as a political information source, whereas 21% report using the two media forms equally for this purpose, and just 4.0% report the Internet being used more than television. A pair of countries produced non-significant findings (i.e., Kuwait, $z = -1.76$; Sweden, $z = -4.52$), with only Kuwait retaining a frequency count for Internet that was greater than television. Although not directly addressing

this study's hypotheses, comparisons run between TV and the other mass media forms (daily newspaper, print magazines, radio) showed that TV news retains statistically significant and superior exposure rates in 52/56 TV-newspaper comparisons, 56/56 TV-magazines comparisons, and 52/56 TV-radio comparisons.

Mobile Phone Comparisons. A large majority (51/56, 91.1%) of the mobile phone-TV news comparisons indicate television news being used more frequently than mobile phones as a source of political information at the $p < 1.0E-09$ alpha level (H_{1b}). The statistically significant results ranged from Lebanon ($z = -6.99$) to China ($z = -37.87$). For Lebanon, 29.9% of respondents indicate using television as an information source more than mobile phones, with 49.1% reporting equal use, and just 21.0% reporting using mobile phones more than television. In the case of China, 61.6% report using television more than mobile phones, 32% use the two media forms equally, and only 6.4% use mobile phones more frequently than television. The mobile phone comparisons indicate a geographic basis for the non-significant results. Three of the five countries with non-significant findings reside in Central Africa (Ghana, Rwanda, Zimbabwe), with the other two countries residing in the Middle East (Kuwait, Qatar). Only one of these comparisons (Kuwait, $z = -10.34$) revealed a statistically significant frequency count signaling greater use of mobile phones than television. For Kuwait, only 11.6% of respondents report using TV more than mobile as a news source, versus 36.0% indicating mobile being used more than television (52.4% report using the two media forms equally).

Summary of Survey-Based Findings. Within the wave 6 WVS data, it is difficult to find another variable that comes closer to being deemed a constant than exposure to television news as a daily source for political information. Of the 81,229 respondents in the 2010–14 WVS, 59,522 (73.3%) claimed using television as a daily information source. Perhaps only the dichotomous “Do you believe in God?” item is its superior in this regard (84.8% being believers), but not by much. Countries as diverse as Algeria, Romania, South Africa, and South Korea all share the common trait of television being used more frequently than either the Internet or mobile phones as an information source. Indeed, 50 of the 56 (89.3%) countries analyzed for this study offer the same story, television remains the citizenry's dominant medium for political information.

Journal Content Analysis

Television-Related Research. Of the 619 articles identified during the unitizing phase, the content analyses revealed a total of 110 works (17.8%) to be television-centric (RQ_1). In looking across the 5 years, there is a steady decrease in the percentage of works focusing on television (See [Table 2](#)). The decline is steady with 2010 having 26.7% of the media-oriented, quantitative political communication works focusing primarily on television and the 2014 percentage resting at 12.9%. This is a sizeable drop across the 5-year time span and the zero-order correlation between year and

Table 2
Publications with Television Element by Year

Year	2010	2011	2012	2013	2014	Total
Political comm articles	86	121	134	139	139	619
Articles with TV as primary	23	28	24	17	18	110
PCT (%) (TV/PolComm)	26.7	23.1	17.9	12.2	12.9	17.8
Articles with new media as primary	17	22	27	33	39	138
PCT (%) (new media/PolComm)	19.8	18.2	20.1	23.7	28.1	22.3

Note. Political communication articles identified during unitizing process. Articles with television element identified during computer-aided content analysis. Zero-order correlation for year by percentage of articles with television as primary, $r = -.963$ (linear curve estimate $F [1, 3] = 38.44, p < .01$). Zero-order correlation for year by percentage of articles with new media as primary, $r = .881$ (linear curve estimate $F [1, 3] = 10.36, p < .05$).

percentage of works within year is large, $r = -.963$ (linear curve estimate $F [1, 3] = 38.44, p < .01$).

New Media-Related Research. The pattern for new media-dominant works (RQ₂) represents a diametrically opposing story when compared to the RQ₁ findings (see Table 2). A total of 138 (22.3%) of the 619 works isolated during the unitizing phase are defined as new media-centric research efforts. There is a sizeable increase in the percentage of works focused primarily on new media across the 5-year time span (zero-order $r = .881$ (linear curve estimate $F [1, 3] = 10.36, p < .05$).

Summary Content Analysis Findings. The two time-based correlations could not be more distinct (TV-by-year [$r = -.963$] and new media-by-year [$r = .881$]). There is a clear shift away from TV-dominant research to new media-dominant research from 2010–2014. In 2010, the television-centric percentage of the political communication research landscape was larger than that of new media-centric works, while we see a flipping of dominance toward new media-centric being at the top of the research food chain by 2014. Social scientific, political communication researchers who are interested in media have clearly shifted their empirical lens fairly substantially away from television and toward new media in a very short period of time (2010–2014), even though television remains the dominant global information source.

Discussion

The data illustrate two opposing but important trends. First, concerning the citizenry, television remains resilient as the world’s dominant mediated information source. Evidence for television’s near-universal importance as a source of political information is overwhelming and transcends national borders and class divisions.

The importance of television holds true in industrialized countries and the developing world. It defies class, ethnic, and religious boundaries, and press freedom levels. The medium remains the world's most important source of political information. Second, despite television's sustained dominance, the world's top political communication researchers are devoting relatively less primary attention to the medium with each passing year. The proportion of articles in nine major communication journals identified as television-centric declined steadily from 2010 to 2014, while the percentage of works focusing primarily on new media rose substantially during this same time period.

The decline in scholarly interest in television as a political medium raises important questions that deserve the field's attention as the world moves further into the digital age. At this important point of transition within the media environment, it is essential for the field to assess where it is focusing its empirical lens and the magnitude of attention given to various communicative acts. What is an appropriate level of attention to give to various media forms? What is the degree to which our research should be anticipatory, generating understanding about forms of political information consumption that are just emerging? What is the degree to which the field should produce insights concerning the dominant patterns of political media use evident in the here and now? These questions represent the constant state of flux that exists within a dynamic field of inquiry and the natural tensions created when seeking to balance addressing questions of this kind. Rather than prescribe specific research agendas, we hope to encourage a robust dialog on the role and objectives of political communication as a field as the world continues to work its way through a communication revolution.

One potential explanation for the discipline's declining interest in television is the rich history of scholarship on the subject. Academic research on television dates back to the medium's inception (see Comstock, Chaffee, Katzman, McCombs, & Roberts, 1978), and television served as the crucible on which many of the field's most significant theories were forged (e.g., Cultivation). The wealth of literature addressing the effects of exposure to television and the factors motivating audience to consume television may be sufficient for our research purposes (e.g., Perloff, 2014). In short, do we really have any new questions to ask about television as a political information source (see Bennett & Iyengar, 2008)? It is reasonable to offer "no" as a response to this question. However, do we really have a sense of the full scope of direct and indirect effects of this medium on audiences across the globe? Given the medium's dominance, does it continue to deserve our attention to understand its influence in full? If the medium remains of true importance for the dissemination of political information, does it behoove the field to do the hard work to formulate new questions that are heuristically provocative?

Political communication's most significant theories may offer a second explanation. Framing, priming, and agenda setting apply to political media in general (see Scheufele & Tewksbury, 2007). They are not medium-specific theories, affording each greater explanatory power (see Chaffee & Berger, 1987). It can be argued that the theories most often utilized by political communication researchers make medium-specific research on television unnecessary. To the extent that medium-specific

differences are insignificant theoretically, the dearth of television research is not concerning.

Finally, political communication scholarship may be shifting away from television based on predictions of how future citizens will be consuming media for political information. If the boundaries between television and digital technologies are eroding, increasing focus on new technologies at the expense of television may be advisable. If we anticipate the obsolescence of television as a distinct medium (i.e., mediumlessness), the observed deviation in scholarship from predominant media consumption patterns would be temporary and reflect a shortcut rather than a wrong turn. To lend some empirical insights on this matter, post-hoc analyses were run for respondents 35 and younger in all 56 countries (alpha level set at $p < 1.0E-5$ given smaller sample sizes, ranging from New Zealand [$N = 161$] to South Africa [$N = 1,865$]). Younger people are most likely to be comfortable with and frequent consumers of digital media, but even among this group television's dominance is evident. Running parallel analyses for H_{1a} and H_{1b} for the 35 and younger sect, 41 of the 56 TV-Internet comparisons reveal TV's frequency rates to be superior. Eleven of the comparisons produced non-significant findings. In contrast, only four country-level comparisons (i.e., Germany, United States, Netherlands, Sweden) reveal the Internet to be superior to TV in terms of exposure levels. As for the TV-Mobile comparisons, 44 of the 56 comparisons reveal TV to dominate in terms of exposure. Nine of the comparisons were non-significant. Only three of the 56 comparisons find mobile to be superior to TV in this area (i.e., Kuwait, Qatar, Germany). While these results are not as one-sided as the general population comparisons, they are clear in their probative value that TV remains a dominant medium.

The WVS data indicate that, at least for now, television is meaningfully distinct from the Internet and mobile phones in terms of frequency of information seeking. Furthermore, existing understanding of television may prove insufficient because television consumption is not static. For example, our content analysis of the 2010–2014 published works revealed several publications focused on television-new media multitasking (e.g., Cameron & Geidner, 2014; Giglietto & Selva, 2014). This type of media behavior is becoming more pervasive (Wang & Tchernev, 2012), and political communication-based works focused on multitasking would be well served to begin a theoretically grounded, systematic assessment of these new types of media consumption experiences (see Wang, Irwin, Cooper, & Srivastava, 2014).

The evolution of the medium makes reliance on theoretical propositions from previous decades potentially unsustainable, and new research may be necessary to capture the implications of emerging trends in television production and consumption. A necessary, but not sufficient condition for this area of research to advance is finding better ways to measure political media exposure. The measurement of political media use has always been problematic (see Prior, 2009), but advancements are being presented in the literature (see Dilliplane, Goldman, & Mutz, 2013). In addition, there are several efforts in the private sector to develop more valid and reliable direct observation measures of media engagement in more complex environments (e.g., Fratti, 2014; Steel, 2016). Research examining the integration of television with new

media technologies could prove particularly fruitful for capturing the evolution of television in the digital media era, but the field must also be mindful of the resiliency of television as an industry in terms of profit and influence (Wolff, 2015).

The study of new media technologies in political communication is undoubtedly essential for the development of the field, but there is also a need to focus on generating insights that bring greater understanding of people's current media habits. Although digital media are gaining importance, television remains the primary source of daily political information in the world. Political communication as a field must ask itself whether its current level of attention directed toward television is appropriate. This research effort provides evidence that allows the field to make some informed decisions as its plots a proper future course of action in this difficult point of transition driven by changes in the media environment.

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Representations of Interpersonal Interaction and Race/Ethnicity: An Examination of Prime-Time Network Television Programs

Julius Matthew Riles, Kira Varava, Andrew Pilny,
and David Tewksbury

Racial and ethnic relations in America are a form of social interaction about which changing perceptions could have important consequences. Current research examining the nature of discrete social interaction situations in entertainment content on television is lacking. This study was conducted with the objective of obtaining an updated account of the state of interpersonal interaction portrayals between characters of different racial/ethnic backgrounds in popular prime time programs on broadcast television. Specifically, we analyzed prime-time television program content on 4 major U.S. broadcast networks. Findings are interpreted via a media priming framework.

Social interaction is at the root of human experience. In our relations with others, we learn about ourselves and one another. In the process, we learn about people and groups we did not know and perhaps even feared. Frequent and high-quality interpersonal interaction (i.e., constructive, multifaceted, and relatively personal) across racial lines may provide vital opportunities to reduce the prevalence and acceptance of negative and distorted stereotypes about different groups (Pettigrew & Tropp, 2008). Scholars of mass communication have long argued that the mass media are a prominent source for judgments about social reality (e.g., Morgan & Shanahan, 2010). Indeed, patterns of media consumption have been observed to be related to reductions in inter-group prejudice (Paluck, 2009) and a heightened perception that society is integrated (Matabane, 1988). Why is it, then, that we know so little about

Julius Matthew Riles (Ph.D., University of Illinois at Urbana-Champaign) is an assistant professor at the University of Missouri. His research interests pertain to the links between media use and interpersonal relationships.

Kira Varava (Ph.D., University of Illinois at Urbana-Champaign) is an instructor at Missouri State University. Her research interests involve media effects on the health of children.

Andrew Pilny (Ph.D., University of Illinois at Urbana-Champaign) is an assistant professor at the University of Kentucky. His research interests are in organizational/group communication and social networks.

David Tewksbury (Ph.D., University of Michigan) is a professor at the University of Illinois at Urbana-Champaign. His research interests are in political communication, news consumption, and information processing.

the nature of social interaction in the media? A peculiar deficit exists regarding one of the most widespread activities occurring in media content: interpersonal interaction.

The present study is an effort to fill that gap. Although we recognize that “race” and “ethnicity” are distinct concepts (derived from physical/biological factors and culture, respectively), comparing groups along a single dimension is common, as is the somewhat simultaneous usage of these terms (e.g., Mastro & Greenberg, 2000). Grosfoguel (2004) argues that the terms’ practical usage features a persistent conceptual intermingling of meanings, which scholars would be ill-advised to combat. As examples, he notes the race-oriented identity of Puerto Ricans in New York City (i.e., a racialized ethnicity), as well as the cultural meaning many ascribe to being a Black person (i.e., an ethnicized race). Even United States census data largely take this approach when treating “Black” and “Asian” as separate “race” categories (United States Census Bureau, 2016). Therefore, Grosfoguel (2004) suggests using these classifications together in the manner in which they are commonly understood: racial/ethnic identity (REI). Here, we use REI as the overarching concept, as it relates to common parlance for researchers, governments, and laypeople.

With only a few exceptions (e.g., Weigel, Kim, & Frost, 1995; Wiegel, Loomis, & Soja, 1980) interpersonal interaction and REI in the media has been given little research attention. Developing this area has great potential for enlightening researchers concerned with media depictions of REI relations in America. In this study, we present a content analysis in which the quantity and quality of social discourse in prime-time broadcast television is examined, applying special focus to the role of REI in the portrayal of interpersonal interactions. The focus of this study is to examine how interpersonal interaction between individuals is depicted within discrete interaction situations. This is to say, our primary focus is not an examination of what the media show different people doing but, more specifically, what they are doing with specific others. We provide such an analysis of the nature of social interaction in the media, utilizing media priming theory to guide our interpretation of the potential implications of the patterns observed.

Examining Mediated Social Interaction

In seeking to address the aforementioned research gap, it is important to, first, establish two basic ideas. One pertains to the types of messages that might have the most practical influence. The other pertains to determining how that influence might become manifest. With regard to the former, the past several decades have been characterized by a proliferation of outlets wherein individuals can consume an array of media content whenever they choose (e.g., cable television, Netflix, Hulu, etc.). Nevertheless, the average American watches live television programming at nearly nine times the rate he/she watches time-shifted television programming (e.g., via digital recording or on demand services; Nielsen, 2015). Moreover, an examination of the viewership for the top 25 programs on broadcast television indicates that they

are associated with an audience roughly three times the size of the top programs on cable/satellite (Kondology, 2015a, 2015b). These data indicate that even in a media environment prone to selectivity, the most prominent means of television exposure in America is very traditional (Yuan & Ksiazek, 2015), dominated by consumption of prime-time broadcast television outlets (Webster & Ksiazek, 2012). Broadcast television, therefore, has a great capacity to be a source of experiential information regarding the typicality of various types of social interaction. Thus, examining types of media fare that are consumed by the largest portions of society seems to demand the study of prime-time broadcast television.

The second idea deals with determining how television programs could influence social perceptions. Our underlying interest concerns the identification of content patterns that could influence audience perceptions of interpersonal interaction. Media priming theory is used to explain how message consumption can influence our perceptions of our social environment by way of cognitive concept linkage (Domke, Shah, & Wackman, 1998). The underlying premise is that when there is co-exposure to concepts (e.g., problematic social interaction and people of particular REIs), future encounters with those ideas will be characterized by heightened accessibility of corresponding views. Empirical evidence suggests that frequent consumption of particular portrayal types is, indeed, associated with increased accessibility of stimulus-consistent beliefs about social groups and their attributes (e.g., Riddle, 2010). In the present case, that means that consumption of specific patterns of interaction between different social groups could influence perceptions regarding potential social encounters with people belonging to that social group. In sum, priming theory points to the importance of identifying the frequency and nature of REI-related social interactions in popular television programs.

Interpersonal Interaction and REI in the Media

Limited research pertaining to REI representations in entertainment media has emphasized the interpersonal relations between different groups. More often, content analyses assess the characteristics (e.g., stereotypes) attributed to various REIs (see Graves, 1999). Thus, the focus has been on the attributes (occasionally social in nature) of the people on television rather than specifically how they interact with each other. This is an important distinction.

Empirical evidence suggests that White characters overwhelmingly dominate American media (Graves, 1999; Mastro & Behm-Morawitz, 2005; Mastro & Greenberg, 2000). With regard to other REIs in American network broadcasts, Black characters are routinely observed to appear most often, though substantially less often than White characters (Kubey, Shifflet, Weerakkody, & Ukeiley, 1995). Other REIs appear in these broadcasts at a rate commensurate with relative invisibility, frequently combining for less than 10% of total appearances (Graves, 1999; Mastro & Behm-Morawitz, 2005; Mastro & Greenberg, 2000).

Research that came closest to examining interpersonal interactions and REIs in the media has not observed such phenomenon in a more in-depth manner. For example, Weigel and colleagues (Weigel et al., 1995, 1980) and Kubey and colleagues (1995) each examined simultaneous television appearance time as an indicator of cross-racial contact, even when actual interpersonal interaction may have shifted or was minimal (e.g., two people sitting quietly). Their finding, based on a limited measurement scope, is supported by other researchers, which shows that REI groups on television may be socially segregated (e.g., Graves, 1999). The current study is among the first to examine interpersonal interaction in terms of discrete instances of direct communication. Our first research question is an unexplored inquiry about the REI composition of entertainment television interactions:

RQ₁: Which groups are most often portrayed interacting with which other groups?

Beyond the prevalence of different REIs in interactions, there is also great utility in assessing the quality (i.e., notable themes) of interaction portrayals. Mastro and colleagues (Mastro & Behm-Morawitz, 2005; Mastro & Greenberg, 2000) have noted that REI group members often discuss separate topics during conversations on television. When Black characters are depicted, social leisure and personal relationships are among the most frequent topics of conversation. When Latino characters are depicted, the topic of conversation generally regards violence or criminal activity. The interpersonal scenario is observed to systematically vary by group. The topic of conversation provides some purchase in the assessment of the nature of an interpersonal relationship; however, it is a mere snapshot. We seek a more comprehensive account of the context of the interaction. Therefore, we pose the following research question:

RQ₂: What relationship types (i.e., social scenarios) are most common when different REIs interaction combinations are present?

The relationships that we have with others are not mutually exclusive, though they may differ in substance. A potential sign of a strong social tie could be that there are multiple ways of contextualizing the relationship. For instance, a group of people may be work colleagues, but they also socialize frequently outside of the work environment and consider each other close friends. In many instances, a unidimensional relationship may indicate a simplistic or superficial connection. As the aforementioned studies have suggested, the emphasized topics and types of relationships can vary by the groups presented; some could be perceived as more personal and intimate (e.g., romantic relationships), and others are more circumscribed (e.g., colleagues). In her review of race/ethnicity portrayals, Graves (1999) observes several systematic trends, including that when there is intergroup screen time it tends to favor formal business relationships over social or recreational relationships. Such trends potentially have ramifications for perceptions regarding the normalcy of more multi-faceted or intimate interactions between different REIs. This suggests the following research questions:

RQ_{3a}: Are inter-REI or single-REI interactions more multi-faceted (i.e., interacting characters simultaneously enacting multiple relationships)?

RQ_{3b}: Are inter-REI or single-REI interactions more intimate (i.e., exhibiting more of a personal bond)?

Relative Emphases of Consumption.

When discussing the impact of changing media diets, observers have argued that researchers must take into account the capacity for audience segmentation (Tewksbury, 2005). National audiences rarely share the same media diet, making it hard to predict what people have seen and heard. This complicates the utility of using theory (e.g., cultivation theory) to predict the impact of media exposure on perceptions of social reality (see Morgan & Shanahan, 2010). Many mass communication scholars discuss the need to examine media consumption in terms of the pockets of exposure that result when people develop similar patterns of selectivity (e.g., Tewksbury, 2005). Inherent in this notion is the idea that when examining a large media system, such as television, one must understand the picture that may be received by people who select content that appeals most directly to their interests. It is possible that some people may primarily consume, for example, comedies, whereas others may prefer police procedurals.

Genres may not be the only division on which broadcast audiences could fragment. Different people could be drawn to certain television networks at the expense of attention to others. Indeed, that sort of channel specialization is at the heart of basic processes of audience fragmentation (Tewksbury, 2005). Whereas ABC and, especially, CBS have tended to broadcast programs that attract older audiences, Fox has produced television shows that appeal to younger audiences, especially younger males (Rice, 2011). In this project we plan to assess not only the types of interactions that are prominently portrayed in the prime-time broadcast television landscape, but also how this picture may be altered for those who consume discrete pockets of media fare. Therefore, we will identify the interactions to which individuals with different relative consumption emphases would be exposed.

RQ_{4a}: How does REI representation in interpersonal interactions differ by network?

RQ_{4b}: How does REI representation in interpersonal interactions differ by genre?

Method

Developed with the goal of examining the quantity and quality of interpersonal interactions both between and within social groups, this study is part of a larger project exploring portrayals of interactions by various social groups (e.g., by REI, age,

sex). This article emphasizes REI group-based divisions. Due to space considerations, a comprehensive treatment of the other analyzed social groups is not possible here.

Sample

The analyzed content was comprised of scripted entertainment programming from the four most commonly watched networks on broadcast television (i.e., CBS, ABC, NBC, and Fox). These networks typically contain the most frequently watched series programs in the United States. At the time of data collection, no CW program was found to be in the top 100 of the most frequently consumed television shows (Bibel, 2013). Reality-television programming was not coded. Despite the label, top-rated reality-television routinely depicts individuals in explicit competition (e.g., *American Idol*) and/or interacting in artificial settings, such as an isolated residence (e.g., *Big Brother*) or an island (e.g., *Survivor*). Scripted programming, however, generally places the characters in situations which resemble a more natural interaction, even when the program, itself, is relatively unrealistic.

Episodes that were selected first premiered during a 10-week period beginning with the last week of January and concluding with the first week of April in 2013. This term was selected because contained within it was a period in which networks returned from their winter programming hiatus but had not yet moved into spring finales. We constructed a list of programs that met our standards. For each program, we randomly chose two episodes for inclusion in our final sample ($N = 124$). Two episodes were chosen in order to avoid limiting ourselves to a single example of a television program. This protocol facilitated breadth in our sampling by including all of the programs with heavy viewership. It also featured depth by including more than a single representation of each program, randomly selected during a multi-month period representing roughly half of the annual episode premiere schedule. A Hulu Plus account was utilized to access nearly all of the episodes. Hulu Plus affords users the opportunity to access episodes of television weeks, or months, after they premiere. This service did not carry all of the CBS episodes that aired during our designated time-frame, so we employed a digital recording device to capture some CBS programming.

Coding Procedure

Our primary concern for this project was examining the portrayal of interpersonal interaction. Therefore, each unique interpersonal interaction was utilized as our unit of analysis. Previous research on interactions in the media informed our definition of this communication activity (Weigel et al., 1995; Wiegel et al., 1980). Interactions commenced when two or more people in proximity to one another engaged in interactional communication (e.g., talking, deliberate touching, or clear nonverbal communication). They concluded when a participant visually or verbally left or

joined an interaction. New interactions began when one or more people left or joined a group. Reliability for the unitization of interpersonal interactions was performed utilizing Guetzkow's U (Guetzkow, 1950). Using this metric, agreement was excellent ($U = .99$). In all, 5,144 interactions were identified and analyzed with regard to the presence of various race/ethnicities and some characteristics of those interactions.

Coders consisted of two undergraduate research assistants, each coding half of the sample. To assess inter-coder reliability, eight television programs were randomly chosen from our overall sample. These episodes varied by television genre and network. The resulting number of interpersonal interactions ($N = 524$) represents more than 10% of our overall sample of interactions, a sizable number of units for reliability testing (e.g., Hurley, Riles, & Sangalang, 2014). Disagreements about variable interpretations were discussed and resolved before coding was finalized. All variables included in analyses met Krippendorff's (2004) suggested alpha minimum of $\alpha \geq .67$, with the exception of three variables that narrowly missed this threshold. Variables indicating the presence of Asians in interactions ($\alpha = .64$), visible indicators of inter-REI inequality ($\alpha = .65$), and indications that the people involved in the interaction were strangers ($\alpha = .65$) fell below the threshold but were included. Krippendorff's alpha is a conservative measure of inter-coder agreement. Nevertheless, analyses with low-alpha variables should be interpreted with more caution.

Variables

Racial/Ethnic Identity. Researchers coded for the presence of White, Black, Latino/a, Asian, and Middle-Eastern characters in each interaction. See Table 1 for descriptive statistics. REI was inferred via the use of indicators such as last name, accents, and visual portrayal.

Inter-REI Inequality. Coders also assessed inequality between members of cross-group interactions. Therefore, this variable was only assessed for cross-REI interactions. Indicators of inequality included depiction of some form of power imbalance, or indications of inferiority/superiority, between the members of different REIs. For example, the White character Teresa Lisbon in *The Mentalist* was frequently depicted giving orders to the Asian-American character Kimball Cho, or otherwise demonstrating her dominance over him. To be identified, a power imbalance had to be observed through the actions of the characters and not just through apparent status positions.

Nature of Interaction. With the goal of examining the types of relationships that characterized interactions, we examined the nature of the interactions portrayed. The types of interactions that we examined included romantic, family, work-related, crime-related, friendship, and strangers. Indications of romantic interactions

Table 1
Presence of Different Racial/Ethnic Groups and Group Combinations on Broadcast Television

	Number of interactions	Percentage of appearances in overall sample
Group member in interaction		
White	5,001	97%
Black	1,246	24
Latino	190	4
Asian/Asian-American	320	6
Middle-Eastern	209	4
Composition of interactions		
All White	3,300	65
All Black	87	2
All Latino	9	0.2
All Asian/Asian-American	4	0.1
All Middle-Eastern	2	0.04
White and Black	1,000	20
White and Latino	143	3
White and Asian/Asian-Amer.	207	4
White and Middle Eastern	174	3
Black and Latino	2	0.04
Black and Asian/Asian-Amer.	1	0.02
Black and Middle Eastern	5	0.1
Combination of 3 or more	142	3

included intimate contact, stated dating ties, or other more formal partnership classifications (i.e., exclusive relationship, marriage). Indications of family interactions included some mention of a familial bond (i.e., spousal, sibling, aunt/nephew, grandparent/grandchild, etc.). Work-related interactions pertained to those conducted with an occupational objective. In some cases, this type of interaction took the form of two colleagues working together, and in other cases it took the form of a service provider and client tie. Indications of a crime-related interaction consisted of individuals interacting due to the explicit commission of some crime. Generally, this type of interaction was characterized by some combination of criminal offenders and criminal justice workers (e.g., lawyers, officers, etc.). Friendship interactions consisted of an indication that the individuals have engaged in some form of recreational or leisure activity with no indication of obvious malevolence. Lastly, acquaintances/strangers were indicated by the portrayal of individuals interacting with one another, with some explicit sign that they did not know, or hardly ever came in contact with, one another.

These categories were not mutually exclusive. Multiple interaction types could, at times, be coded in one interaction. One exception: If a relationship was deemed to

be romantic in nature, it was not also classified as friendship. Following this logic, if people were coded as being strangers to one another, they could not also be coded as being in a friendship or romantic relationship. Of our six primary relationship types, three (romantic, family, friendship) are more intimate and personal and three (work-related, crime-related, and acquaintances) are relatively less so. An ordinal variable was created to indicate the level of intimacy of each contact. A lack of any relationship types was coded as 0, low intimacy interactions were coded as 1, and the presence of high intimacy relationships was coded as 2.

Manifest Variables. Some research questions pertained to the examination of the quantity and quality of interactions as they related to broadcast network (CBS, ABC, NBC, or Fox) and program genre. Although one option would have been to operationalize a definition for each genre and incorporate an additional program-level unit of analysis, we chose to utilize data from the Internet Movie Database (IMDB, 2013), an institutional source of media information. We located each program on this website and compiled information regarding the site's classification on genre. This resulted in the identification of dozens of genres in our sample (some programs fit a number of genres). We only report data relevant to the six most frequently depicted genres in our sample, drama, thriller, situation comedy, animation, mystery, and police procedural. Again, some television programs belong to more than one genre.

Results

Our analyses revealed major disparities in the depiction of REI in interpersonal interaction. White characters appeared in 97% of the interactions, followed by Black characters who appeared in 24% of the interpersonal interactions depicted. All other groups were represented in just about 5% of the interactions (see Table 1). RQ₁ asked which REIs were most often depicted interacting with each other. Our data revealed that inter-REI interactions accounted for roughly 33% of all interactions. Furthermore, 50.3% ($N = 843$) of that third incorporated power differentials (i.e., inter-REI inequality) between members of different REIs. In order to examine the prevalence of specific inter-REI combinations, we categorized each interaction by REI make-up. In all, we had 15 REI composition categories based upon the different combinations of one or two REIs being present and a final group representing the presence of any three or more REIs. We chose to create our interaction REI composition variables in this manner because we were able to capture all of the uni- and bi-REI interactions without introducing the overwhelming task of assessing every possible combination. Because the twelve possible additional combinations of three or more REIs accounted for only about 3% of all interactions, we were confident that our approach was justified. Our findings revealed that interactions comprised of only White characters accounted for 65% of the total interactions. Interactions comprised

of only Black characters accounted for another 2%. All other same-REI interactions accounted for less than half a percent combined.

With respect to the presence of various interracial exchanges, we found that interactions with just White and Black characters accounted for 20% of all interactions. Dual-group interactions between White and Asian/Asian American characters were the second most represented, composing 4% of the total interactions. This was followed by White and Middle Eastern, and White and Latino/a characters, with each interaction type representing roughly 3% of the total. Inter-REI interactions between all other dyadic REI combinations were largely absent. In particular, there were no interactions observed with only Latino/as and Asians/Asian-Americans, Latino/as and Middle Eastern characters, and Asians/Asian-Americans and Middle Eastern characters.

RQ₂ asked which relationship types (i.e., social scenarios) were most common when various REI interaction combinations were present, and was assessed by conducting 2×2 Pearson's chi-squared analyses. This analysis was used to determine whether specific REIs or REI group combinations were being represented in the context of particular interaction types at a rate that diverged from statistical chance expectations (what would be expected from the overall presence of different groups in interactions). Table 2 presents these analyses.

Concerning REI group combinations and interaction types, we found that for the two most represented single-REI interaction categories (i.e., all-White or all-Black interactions) the nature of the interaction is overrepresented as being that of a romantic and family bond. Additionally, they were underrepresented with regard to work-related, friendship, and stranger interactions compared to chance expectations. When White characters were depicted interacting with people of a different REI, work- and crime-related relationship types tended to be significantly overrepresented (with the exception of Middle Eastern characters) and romantic and family interactions were underrepresented. Combinations of three or more different REIs were overrepresented as work-related, friendship, and stranger interactions, though they were underrepresented as family connections. In sum, the data on interaction types suggest a relatively segregated world on television. People of different REI groups on television interact with one another in the public spheres of life but much less often in private, intimate ways. In response to RQ_{3a} and RQ_{3b}, our results, respectively, demonstrate that inter-REI interactions were more multifaceted ($F [1, 5111] = 38.76, p < .001, \eta_p^2 = .01$), but less intimate ($F [1, 5111] = 34.93, p < .001, \eta_p^2 = .01$) than single-REI interactions.

Our next research questions asked about the REI representation of interpersonal interactions within various segments of broadcast television (see Table 3). These divisional segments of broadcast television included analyzing interactions by network (i.e., RQ_{4a}) and by content genre (i.e., RQ_{4b}). With respect to RQ_{4a}, we found that CBS over-represents all-White interactions as well as White and Asian/Asian-American interactions. On the other hand, CBS underrepresents all-Black, White and Black, and White and Latino/a interactions. With the exception of Asians/Asian-Americans, this network would appear to place no extraordinary emphasis on the

Table 2
Deviation of Different Racial/Ethnic Groups and Group Combinations from Chance Expectations by Relationship Type

	Romantic	Family	Work-related	Crime-related	Friendship	Strangers	Total
Group member in interaction							
White	- 14	- 37	+ 40	+ 30	+ 27	+ 21	5001
Black	- 25	<>	+ 127	+ 28	<>	<>	1246
Latino	+ 10#	+ 14	<>	+ 25	<>	+ 16	190
Asian/Asian-Am.	- 30	- 26	+ 44	<>	+ 14	+ 36	320
Middle-Eastern	<>	+ 19	<>	- 41	+ 49	+ 21	209
Composition of interaction							
All White	+ 45	+ 39	- 124	<>	- 32	- 50	3300
All Black	+ 20	+ 31	- 14	- 16	- 18	- 14	87
White and Black	- 42	- 23	+ 120	+ 50	<>	<>	1000
White and Latino	+ 10	+ 8#	+ 21#	+ 19	- 18	+ 14	143
White and Asian	- 23	- 20	+ 26	+ 15	<>	+ 19	207
White and Middle-Eastern	<>	- 28	<>	- 32	+ 41	<>	174
Combination of 3 or more	<>	- 19	+ 26	<>	+ 25	+ 28	142
Total	1205	1068	3239	1633	1214	1367	

Note. Table contains deviations from chance expectations derived from 2 x 2 chi-squared analyses. Top section details data for the presence of different race/ethnicities in the various interactions. Bottom section details data for racial composition of the various interactions.

= Observed presence of category marginally different from chance expectation at $p < .1$.

<> = Observed presence of category not significantly different from statistical chance expectation at $p < .05$.

Table 3
Deviation of Different Racial/Ethnic Groups and Group Combinations from Chance Expectations by Network

	CBS	ABC	NBC	Fox	Total
Group members in interactions					
White	+ 17	+ 12	- 8#	- 19	5001
Black	- 76	- 23#	+ 86	<>	1246
Latino	- 47	+ 43	+ 23	- 19	190
Asian	+ 28	<>	<>	<>	320
Middle-Eastern	<>	- 51	<>	+ 70	209
Composition of interactions					
All White	+ 90	<>	- 51	- 61	3300
All Black	- 12	- 10	+ 8#	+ 16	87
White and Black	- 51	<>	+ 55	<>	1000
White and Latino	- 35	+ 44	<>	- 12	143
White and Asian	+ 27	<>	- 20	<>	207
White and Middle-Eastern	<>	- 42	- 14	+ 57	174
Combination of 3 or more	<>	- 10	+ 16	<>	142
Total	1483	1355	1264	1042	

Note. Table contains deviations from chance expectations derived from 2×2 chi-squared analyses. Top section details data for the presence of different race/ethnicities in the various interactions. Bottom section details data for racial composition of the various interactions.

= Observed presence of category marginally different from chance expectation at $p < .1$.

<> Observed presence of category not significantly different from statistical chance expectation at $p < .05$.

portrayal of minorities in interactions. Moreover, our analyses indicated that with regard to the presence of inequality in inter-REI interactions, more inequality was observed on CBS than would be expected by chance alone ($\chi^2_1 = 4.25, p < .05$). Of the various networks, ABC was most similar to CBS. The most stark contrast between the two pertains to the over (ABC) and underrepresentation (CBS) of Latino/a and White interracial interactions.

On NBC, a fairly different picture emerged pertaining to REI representation in interactions. Here, all-Black, White and Black, and combinations of three or more REIs were overrepresented whereas all-White interactions were significantly underrepresented. On Fox we observed a significant underrepresentation of all-White interactions. Like NBC, all-Black interactions were significantly overrepresented. Unlike any other network, on Fox, Middle Eastern characters were overrepresented in interactions compared to chance expectations. Finally, our analyses indicated that with regard to the presence of inequality in inter-REI interactions, less inequality was observed on Fox than would be expected by chance expectations ($\chi^2_1 = 7.31, p < .01$).

With regard to RQ_{4b} , we found that certain genres are associated with different rates of REI depiction in interpersonal interactions. Table 4 displays these findings. Broadcast television dramas significantly overrepresent all-White interactions. Programs of the thriller genre overrepresented interactions comprised of White and Black characters, whereas interactions with White characters and all other minorities were statistically underrepresented. For both dramas ($\chi^2_1 = 30.99, p < .01$) and thrillers ($\chi^2_1 = 14.65, p < .01$), our analyses indicated that more inter-REI inequality was observed than would be expected by chance. Programs of the mystery genre revealed an overrepresentation of interactions comprised solely of White characters. Each minority was significantly underrepresented, most prominent of which was Latino/as, who did not appear in any interactions for this genre. Many interactions occurred within the genre of the police procedural. Though all-Black interactions were underrepresented, interactions with solely Black and White characters as well as those with solely White and Latino/a characters were both significantly overrepresented. For police procedurals ($\chi^2_1 = 13.56, p < .01$) our analyses indicated that less inter-REI inequality was observed than would be expected by chance. Situation comedies overrepresented all-Black interactions and significantly underrepresented White and Black interactions. The broadcast animation genre was a genre in which all-Black interactions were significantly overrepresented, whereas White and Black interactions were significantly underrepresented when compared with chance.

Discussion

The purpose of this content analysis of prime time broadcast scripted programming was to examine the quantity and quality of social interaction with regard to REI. We found that a large majority of the observed interactions contained solely White characters, and nearly all of them contained at least one White character. Such a finding reinforces the idea that this REI dominates in media representation (e.g., Graves, 1999; Mastro & Behm-Morawitz, 2005; Weigel et al., 1995). Also in line with previous research is the finding that Black characters appeared in interactions less often than did Whites, but more often than did members of other groups. Similarly, the number of interactions in which Black characters interacted with those of the same REI was relatively miniscule. Indeed, there were ten times more interactions wherein Black characters interacted with White characters than cases in which they interacted with other Black characters. A similar trend universally emerged with respect to other REI minority groups interacting with White characters far more than they interacted with members of their own REI. Potentially most surprising was the incredibly rare occasion in which the various minorities were depicted interacting with one another. Several inter-REIs combinations never occurred in our coding of thousands of interactions.

When members of different REIs interacted with one another (as we saw, predominantly with White characters) the interactions tended to be related to work or crime more often than would be expected by chance and were rarely romantic or

Table 4
Deviation of Different Racial/Ethnic Groups and Group Combinations from Chance Expectations by Genre

	Drama	Thriller	Mystery	Sitcom	Animation	Police procedural	Total
Group member in interaction							
White	+ 28	<>	+ 11	- 30	- 24	+ 17	5001
Black	<>	+ 67	- 19	- 62	- 14#	<>	1246
Latino	- 57	- 19	- 15	<>	- 12	+ 39	190
Asian	- 60	- 35	- 25	- 33	<>	<>	320
Middle-Eastern	- 62	- 30	- 12	+ 97	<>	- 37	209
Composition of interactions							
All White	+ 141	<>	+ 62	<>	<>	<>	3300
All Black	- 13	<>	- 7	+ 16	+ 23	- 16	87
White and Black	+ 60	+ 90	<>	- 92	- 29	+ 35	1000
White and Latino	+ 42	- 14	- 12	- 16	- 9	+ 41	143
White and Asian	- 40	- 18	- 16	- 32	<>	<>	207
White and Middle-Eastern	- 50	- 24	- 10	+ 79	<>	- 31	174
Combination of 3 or more within genre	- 28	- 20	- 10	<>	- 8	<>	142
Total interactions	2144	855	413	2100	425	1088	

Note. Table contains deviations from chance expectations derived from 2 x 2 chi-squared analyses. Top section details data for the presence of different race/ethnicities in the various interactions. Bottom section details data for racial composition of the various interactions.
 # = Observed presence of category marginally different from chance expectation at $p < .1$.
 <> = Observed presence of category not significantly different from statistical chance expectation at $p < .05$.

family-focused. ANOVA results revealed that when interactions were inter-REI, they were often less intimate. This finding, again, echoes previous research indicating that depicted inter-REI interactions tend to portray relatively formal ties between REIs rather than more intimate or personal ones (Graves, 1999).

Drawing from these observations regarding the overall prime-time broadcast interaction landscape, a media priming framework might be used to make predictions about society's view of inter-REI relations. First, frequent exposure to these popular depictions could influence the accessibility of perceptions that inter-REI interactions not involving White individuals are typical. Audience members who are routinely exposed to these depictions may form the perception that minority populations are so well integrated into White American society that members of those groups have no particular interest in, or need to, interact with one another. Indeed, Whites are the center of much these characters' social universe. Second, the social beliefs and attitudes derived from consuming this content could potentially influence actual interaction behaviors. Perceptions of normalcy as they relate to social interaction could influence the social inclinations of adolescents or other individuals who are sensitive to the consequences of violating perceived social customs and norms.

Media priming theory might be utilized to predict that the attitudes of minorities could be influenced such that viewers within these groups may hold more favorable views about inter-REI interactions with White people as opposed to other REIs because they view it as substantially more commonplace and accepted. Furthermore, White viewers as well as minorities might find it perfectly normal to primarily engage in inter-REI racial interactions within formal settings, placing less emphasis on more personal interactions. All of these theoretically based outcomes could be problematic with regard to REI relations in America.

With regard to interpersonal interaction and REI representations within different segments of scripted broadcast television, we found that different networks were associated with different trends. Relative to the others, CBS might be considered the least diverse. The network overrepresented White and Asian/Asian-American characters and underrepresented Black and Latino/a characters. Furthermore, interactions featuring solely White characters were drastically overrepresented, as was the power imbalance within inter-REI interactions. Not surprisingly, due to the fact that the vast majority of inter-REI interactions on CBS are comprised of minority in combination with White characters, we know that White characters are involved in a number of these power differentials. Unlike CBS, NBC could be considered the most diverse with regard to interaction make-up. ABC and Fox both had a more mixed representation of REIs.

Additionally, content genre was associated with varying trends concerning interactions and REI. Both dramas and mysteries were observed to have the least diversity, each over-representing White characters and underrepresenting nearly all of the others. Police procedurals appeared to have the most diversity; only Middle-Eastern characters were underrepresented. One explanation for this outcome is that many police procedurals take place in urban city environments (e.g., *Law & Order: SVU*, *CSI: NY*) where one might expect to find more REIs living close to one another.

Moreover, due to the tendency for these shows to routinely bring in a number of new characters for the primary case in each non-serial episode, there is more potential to introduce individuals of different REIs. As a result of the cast demands and setting, the depiction of characters as victims and perpetrators may be more diverse in this genre.

Finally, we were surprised to find that police procedurals were associated with less inter-REI inequality than would be expected by chance. An understandable conception of these types of programs would be that they incorporate instances of White police officers arresting or giving orders to minority perpetrators. Such trends have been reported with regard to broadcast television news (Dixon & Linz, 2000) and would certainly represent our definition of inter-REI inequality. It is possible, however, that the largely investigatory nature of this genre (i.e., solving crimes) precipitates a less domineering demeanor among characters in the course of reaching a resolution. Such a trend could be quite promising in how it might promote cooperation as the most widespread form of problem solving when dealing with diverse others.

With regard to the different segments of broadcast television, media priming theory could be used to predict that frequent consumption of the CBS network and of genres like thriller and mystery might be associated with diminished accessibility of particular social perceptions. Notably, they will be less likely to perceive inter-REI interactions in society as typical. On the other hand, consumption of NBC and police procedurals might be associated with bolstered perceptions regarding the typicality of such interactions. In this sense, being selective in one's broadcast media diet may have direct ramifications for one's view of REI relations. Such a connection is in need of further exploration.

Our study had several limitations worth noting. We were unable to discern the number of people from each REI who were in a given interaction. Our primary concern during coding was the composition of the interactions along REI and other social category dimensions (e.g., gender, age group). Attention was not given to counting the number of each demographic group that was represented in an interaction. Had we focused entirely on REI, reduced time constraints might have afforded us the flexibility to incorporate such an assessment. Furthermore, future research concerning interpersonal interactions in the media should consider incorporating qualitative analyses of the themes of conversations in order to assess, in an in-depth and nuanced manner, the style of communication between members of various REI group combinations. In this study, duration of interactions, the technique of past research regarding interaction on television (e.g., Weigel et al., 1995), was not recorded. We believed social reality perceptions would be more strongly affected by the frequency of interactions that had particular characteristics, compared to the duration of those interactions. Although there is scholarly support for our contention (e.g., Shrum, 1996), future research should employ both techniques. Another arguable limitation could be that our study did not analyze reality television programming. We believe that this exclusion was warranted, and that it served to prudently narrow our scope of content. Nevertheless, future research may be well-

served to analyze this content and even compare it to scripted programming, similar to our comparison of genres.

Lastly, though we feel justified analyzing prime-time broadcast programming (due to its massive consumption), we recognize that audiences for both cable and online entertainment outlets are continually expanding (Webster & Ksiazek, 2012). Future research should integrate these sources of content. If a goal is to attain a comprehensive picture of the interpersonal interaction landscape in popular media (and it should be), these other sources of content must be included. Popular perceptions of the many REI groups in America can substantially shape social behavior. Examination of the sources of Americans' beliefs about REI groups must include an assessment of the ways the popular media depict social interaction.

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Measuring Extremes: A Quantitative Content Analysis of Prime Time TV Depictions of Body Type

Dana Mastro & Andrea Figueroa-Caballero

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Measuring Extremes: A Quantitative Content Analysis of Prime Time TV Depictions of Body Type

Dana Mastro and Andrea Figueroa-Caballero

The current content analysis examined representations of body type on prime time television. A composite week of U.S. television was randomly sampled, yielding 1,254 characters in 89 programs. Character attributes also were evaluated. Results suggest that women have become increasingly thin on TV. Thinner characters were more attractive than overweight characters. The few obese and overweight characters presented were less articulate, less intelligent, and more likely to be ridiculed than thinner characters. Black characters on prime time were heavier than other racial/ethnic groups and these characters were seen as more likeable. Implications are discussed from social cognitive theory and cultivation theory perspectives.

Scholars have long criticized the media for the unhealthy manner in which they characterize weight and body types (e.g., Levine & Harrison, 2009). However, it is not simply images of the “thin ideal” that have garnered condemnation from scholars and advocacy groups; they also denounce messages of “fat stigmatization” for their potentially harmful influence on audiences (Himes & Thompson, 2007). These messages pillory overweight individuals, while simultaneously promoting an overly thin, equally unhealthy, and largely unattainable alternative (Himes & Thompson, 2007; Levine & Harrison, 2009).

Mounting evidence indicates that exposure to these messages can: (a) influence audience member’s perceptions about their own and others’ health and attractiveness, (b) normalize standards of treatment based on body type; (c) impact viewer’s self-concept, body satisfaction, mental health, and overall psychological well-being, and even (d) contribute to disordered eating behaviors, in certain cases (Harrison & Hefner, 2008). Indeed, upwards of 50% of girls and college-aged women are

Dana Mastro (Ph.D., Michigan State University) is a professor of Communication at the University of California, Santa Barbara. Her research interests include documenting depictions of race/ethnicity in the media and investigating the effects of exposure to these portrayals on ingroup and outgroup audiences.

Andrea Figueroa-Caballero (M.A., University of Illinois, Urbana-Champaign) is a doctoral student at the University of California, Santa Barbara. Her research interests include examining the portrayals of racial and ethnic minorities in the media from an intergroup perspective.

affected by body image disturbance, which may begin to develop as early as age seven (see Grabe, Ward, & Hyde, 2008). Similarly, men are not immune to such disorders, with prevalence rates ranging from 10% to 40% (Duchesne et al., 2017; Levine & Harrison, 2009). Additionally, obese and overweight children are significantly more likely than average weight children to be bullied (Lumeng et al., 2010). Because media messages, in part, contribute to body dissatisfaction and/or peer victimization, documenting these representations is socially significant.

Although media effects cannot be determined from content analytic results alone, such findings—when coupled with insights from social cognitive theory and cultivation theory—speak to the types of outcomes that might occur among different audiences and guide subsequent effects studies testing the implications of exposure on viewers. Accordingly, the current quantitative content analysis of prime time television offers insights into the differing portrayals of body types in U.S. media. To the best of our knowledge, this is the first examination of its kind in over a decade (i.e., Greenberg, Eastin, Hofschire, Lachlan, & Brownell, 2003). In addition, the current analysis endeavors to reconcile competing evidence regarding the representation of body types across diverse racial/ethnic groups. Without the insights provided by analyses of this nature, it is impossible to determine if and how the TV landscape has changed in its depictions of body type since shows like *Friends* dominated prime time; ultimately precluding any meaningful tests of the implications of exposure to contemporary TV fare.

Media Depictions of Body Type

Content analytic research in the United States has long demonstrated the media's glorification of idealized and unrealistic standards of beauty. For women, this body ideal is extremely thin with large breasts (Tylka & Calogero, 2010). For men, it is a hyper-muscular, mesomorphic build with little body fat (Martins, Williams, Ratan, & Harrison, 2011). Such characterizations guide gender-related body standards (Levine & Harrison, 2009; Tylka & Calogero, 2010) and extol ideals that are often biologically unattainable for both women and men (Harrison, 2003).

The privileged status afforded to female thinness in U.S. media is not a recent development. In terms of sheer quantity, research from the 1970s through the early 2000s indicates that the proportion of underweight female characters on television has remained persistently above 30%, far exceeding the rate in U.S. society (see Greenberg et al., 2003). Moreover, evidence suggests that underweight women in the media have become thinner over time, especially in magazines (Byrd-Bredbenner, 2003). Among men, data indicate that although extreme thinness is not as prevalent, the proportion of underweight male characters on TV is six times that of the real world (Greenberg et al., 2003). Though early studies suggested that these extreme portrayals were predominately associated with White characters (e.g., Kaufman, 1980), more recent research indicates that these idealized body types are the norm across characters of all races/ethnicities (Baker, 2005; Mastro & Stern, 2003).

When it comes to the manner in which these unrealistic and idealized body types are portrayed in U.S. media, the lion's share of research indicates that both female and male characters who epitomize these body ideals are more likely to be praised, liked, rewarded, popular, seen as attractive, and depicted as romantically desirable (Greenberg et al., 2003; Levine & Harrison, 2009). Among males, thinner characters tend to be more intelligent and charming than heavier characters (Greenberg et al., 2003). Further, among females, thinner characters are also typically more helpful than heavier characters in task-oriented contexts (Fouts & Vaughan, 2002).

Depictions of Overweight and Obese Body Types. Not only are abnormal thinness and exceptional muscularity glorified, but the media also simultaneously offers messages of ridicule and condemnation regarding the overweight or obese. In terms of the quantity of depictions, the most recent content analysis of this nature indicates that 3% of women and 7% of men on television are obese (Greenberg et al., 2003) and an additional 10% of female and 17% of male characters on TV are overweight. These depiction rates for obese and overweight individuals fall far below real-world figures in society. This is not to say that overweight or obese characters should be the norm, as both ends of the weight extreme have severe health implications, but the extent and quality of these characterizations is consequential.

Existing research indicates that obese/overweight characters are: (a) less likely to be seen as attractive, (b) less likely to be in positive interactions with their counterparts on TV, (c) less likely to be involved in romantic or sexual relationships, (d) less likely to be seen as helpful in task-oriented interactions, and (e) more likely to be ridiculed or be the target of negative comments (Fouts & Vaughan, 2002; Greenberg et al., 2003; Himes & Thompson, 2007). Messages of this nature can potentially stigmatize, marginalize, and demoralize overweight and obese audience members, possibly encouraging a host of harmful psychological and behavioral outcomes (see Crandall, Nierman, & Hebl, 2009).

Effects of Exposure to Media Portrayals of Weight

By promoting certain body types through either the idealization of overly thin physiques or the stigmatization of overweight bodies, the media play a meaningful role in perpetuating norms about what types of bodies are attractive, desirable, and even acceptable for women and men (e.g., Himes & Thompson, 2007; Levine & Harrison, 2009). Applying assumptions rooted in the most prominent theories of media effects (cultivation and social cognitive theory, in particular) helps explain how the extent and nature of media depictions of weight/body type may contribute to audience members' attitudes, beliefs, and behaviors.

Cultivation Effects. From the perspective of cultivation theory, media is a socializing agent that provides its audience with consistent, homogenized conceptualizations of life which, over time and repeated exposure, shift social

perceptions toward the media version of reality (Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002). Although frequent television users are more likely to be susceptible to cultivation effects, all audiences are vulnerable. Accordingly, media use can influence perceptions about the tangible features of the world such as rates of overweight and obesity in society (i.e., first order effects), as well as the value placed on different groups or social phenomena (i.e., second order effects), such as the thin ideal.

Cultivation research in this context indicates that media exposure not only influences perceptions about one's own weight and norms about thinness, but also impacts views about those who do not conform to these ideals (see Levine & Harrison, 2009). For example, boys' exposure to television has been linked to perceptions that overweight girls are lazy and friendless. Similarly, television viewing among females has a known positive correlation with thinner body ideals and greater body dissatisfaction (Levine & Harrison, 2009).

Social Cognitive Theory Effects. Taking a micro-level perspective, social cognitive theory (SCT) offers a framework for understanding the mechanisms through which viewers may learn from media models (Bandura, 2002). Attention, retention, production, and motivation are the governing functions of the process. Specifically, an individual must observe a modeled behavior to initiate learning, with such attention influenced by factors including the attractiveness and similarity of the model, as well as the repetitiveness, distinctiveness, and simplicity of the message, among other factors. Replication of observed behaviors can occur only if the viewer retains them in memory (i.e., retention), and subsequently translates the symbolic representation of the observed behavior into action (i.e., production). Finally, a viewer must be motivated to learn and reproduce the behavior. Such motivation is based, in part, on the associated reinforcement (positive/negative). Through this process, media messages can serve as a source for acquiring ideals, norms, behaviors, and even self-efficacy beliefs.

When coupled with findings from content analyses of depictions of body type, SCT suggests that exposure to mass media has the potential to reinforce the thin ideal (for women) and exceptional musculature (for men) through consistently associating these figures with rewards (e.g., thin models are more well liked, more likely to have romantic relationships, less likely to be bullied, etc.). Further, exposure may reinforce norms of marginalization for overweight and obese individuals by coupling these models with negative outcomes (e.g., overweight characters are less likely to receive praise, more likely to be insulted, etc.). Identification with and/or positive affect toward either of these types of models can exacerbate the impact of exposure.

Empirical evidence supports these assertions. Hofschire and Greenberg's (2001) research found that identification with thin models in U.S. magazine and television content was associated with acceptance of idealized body stereotypes and overall body dissatisfaction among U.S. viewers. Similarly, Stice and Shaw's (1994) findings indicate that exposure to magazine images containing exceptionally thin female models was positively correlated with greater depression, stress, guilt, shame,

insecurity, and body dissatisfaction among U.S. women (vs. viewing average-sized models or no models). Additionally, exposure to mass media among U.S. adolescents has been linked with obesity stigma, including evaluations of overweight/obese peers as less likeable and intelligent (Latner, Rosewall, & Simmonds, 2007). For men, body type research in this area also paints a bleak picture. Specifically, exposure to media that endorse the muscular ideal is related to greater self-consciousness, body dissatisfaction, fixation on building exceptional muscularity, and concerns about a variety of physical features and bodily functions such as body odor and body hair (see Aubrey & Taylor, 2009).

Overarching Implications. These bodies of research reveal that: (a) thin characters receive privileged status in U.S. media in terms of both the quantity and quality of portrayals and (b) exposure to these representations has social, psychological, and behavioral consequences. Thin figures (particularly thin females) have been overrepresented in U.S. media content and linked with attractiveness, likeability, sexual appeal, success, intelligence, and abundant romantic opportunities (see Greenberg et al., 2003). Conversely, overweight and obese characters have been underrepresented compared with real-world demographics in the United States and portrayed as lazy, unintelligent, physically and sexually unattractive, as the objects of derision, and even as targets of physical and emotional aggression (Fouts & Vaughan, 2002; Greenberg et al., 2003; Himes & Thompson, 2007). In other words, it appears that attributes related to success (e.g., intelligence, motivation), attractiveness, likeability, romance, and even physical and psychological treatment (e.g., ridicule, bullying) are a function of the body type of the character. Somewhat less clear is whether these characterizations based on body type are consistent across gender. To examine current media portrayals of body type, we pose the following hypothesis and research question, based on existing research:

H₁: Women will be depicted as significantly thinner than men on prime time television.

RQ_{1a-e}: Do the attributes associated with different body types on television vary based on the character's gender, in terms of: (a) success (i.e., intelligence, motivation, articulateness), (b) attractiveness, (c) likeability, (d) romance (i.e., flirtatiousness, sexual activity, relational status), and (e) physical and psychological treatment (i.e., ridicule, bully, bullied).

Effects among Diverse Audiences. When it comes to the effects of exposure to messages about body type among diverse racial/ethnic audiences, the research is scant. Although idealized body images can be found across all racial/ethnic groups in the media (Baker, 2005; Mastro & Stern, 2003), only limited research examines the implications of exposure to this content. This work suggests that there are both differences and similarities in terms of how racial/ethnic groups and Whites attend and respond to media messages related to body image (e.g., Frisby, 2004; Roberts,

Cash, Feingold, & Johnson, 2006). For example, in their meta-analytic review of research examining differing levels of body satisfaction among Black and White women, Roberts et al. (2006) found that Black women have higher levels of body and weight satisfaction than White women, regardless of body type. Poran (2006) notes that a potential explanation for this could be the underrepresentation or misrepresentation of Black women in media, such that Black women purposefully disidentify with White media images in general and are thus protected from negative effects that may result from media exposure. Disidentification with some images does not, however, mean that Black women are immune to the promotion of the thin ideal. Frisby (2004) found that Black women do engage in social comparison with idealized Black models and suffer from lower self-esteem as a result.

These works help to accentuate the influence of similarity (and identification-based features of media content) on media effects processes related to portrayals of body type. In doing so, the research underscores the need to move beyond merely assessing gender in content analytic investigations of body type. Although the terms race and ethnicity are not synonymous (e.g., Cokley, 2005), they are addressed jointly in this context given that there can be substantial overlap between these constructs, that they are often applied interchangeably in the research (whether or not appropriately), and that they are seldom (if ever) disentangled in media presentations. Based on the research reviewed above, the variation of body types across different racial/ethnic groups is uncertain and thus, we pose following research questions.

RQ₂: Does a character's body type vary based on ethnicity?

RQ_{3_{a-e}}: Do the attributes associated with different body types on television vary based on the character's ethnicity, in terms of: (a) success (i.e., intelligence, motivation, articulateness), (b) attractiveness, (c) likeability, (d) romance (i.e., flirtatiousness, sexual activity, relational status), and (e) physical and psychological treatment (i.e., ridicule, bully, bullied).

Method

Sample

Using a simple random sample without replacement, a 1-week composite of current prime time television programming (8–11 p.m. PST) across the nine broadcast and cable networks with the highest English-language viewership in the United States (ABC, AMC, CBS, CW, FOX, NBC, USA, TBS, & TNT) was constructed over a 10-week sampling period from September to December 2013. Only scripted and reality television programs were included. Special events (e.g., *American Music Awards*), sports, and news were omitted. In order to identify the units in the population (i.e., programs on prime time television), a list of all programs appearing on each

of the selected networks during the regular 2013–2014 television season was compiled. One episode of each of the scripted entertainment programs within the population was randomly sampled, using a random numbers table, during the 10-week timeframe. This resulted in a final sample of 89 programs and 1,254 distinct characters.

Coder Training and Reliability

Four undergraduate coders, blind to the purpose of the study, were trained on prime time television programming from outside the actual sample until acceptable levels of intercoder reliability were consistently achieved via Krippendorff's alpha ($\alpha \geq .80$, Krippendorff, 2004a). Training consisted of two, 1.5-hour sessions per week (alongside practice coding), over 13 weeks. Each variable of interest was defined in a comprehensive codebook, with exemplar media characters who best embodied the different variables (e.g., low vs. high intelligence, etc.) provided as reference points.

Final reliabilities were computed based on an overlap of approximately 17% of the shows ($n = 15$) from the final sample of 89 programs. Coders were individually assigned programs on a weekly basis. They were unaware of which programs were used for calculating reliabilities or which programs were assigned to other coders. Reliabilities are reported alongside the variables, below. Although all items used in the current study achieved acceptable levels of reliability in final practice trials ($\alpha = .80$) a small number of items fell slightly below this standard in the final reliabilities. However, as Krippendorff (2004b) notes, reliabilities in the range between .67 and .80 need not be dismissed but should simply be considered cautiously.

Unit of Analysis

In determining whether character depictions on prime time television varied depending on body type, coding was conducted at the character level. Main, minor, and background characters were included. To be included, characters had to speak two or more intelligible lines in the episode and physically appear in the show. Main characters were defined as regularly recurring characters that were central to the development of the storyline and who appeared consistently throughout the episode. Minor characters were infrequently appearing characters who may have appeared once or more than once in the episode and played a supporting role in the development of the episode's storyline. Background characters were non-central, non-recurring characters with at least two spoken lines in the episode.

Ethnicity. The race/ethnicity ($\alpha = .89$) of the character was identified as Asian American, Black, Latino, Native American, White, or other (specify), based on

physical appearance and/or dialogue provided in the episode. No Native Americans were found in the current sample so analyses include only Asian Americans, Blacks, Latinos, and Whites.

Gender. The gender ($\alpha = .99$) of the character was identified as either male or female.

Body Type. The body type ($\alpha = .88$) of the character was rated on a 9-point pictorial scale from *extremely thin* (1) to *obese* (9) using Stunkard, Sorensen, and Schulsinger's (1983) visual body image scale. For intuitive and analytical purposes, as well as to improve reliability, body type was collapsed after coding from the original 9-point scale to a 3-point scale with scores of "1" representing an underweight body type (by collapsing previous scores of 1, 2 and 3), "2" representing average/healthy body type (by collapsing previous scores of 4, 5, and 6), and "3" representing overweight/obese body type (collapsing previous scores of 7, 8, and 9).

Character Attributes. To determine whether character's attributes varied based on the body type, seven semantic differential items were used, three ratio (count) items were employed, and one categorical variable was utilized. These represented characterizations known to be linked with differing body types in the media, based on existing research (noted previously). The semantic differential items were rated on a 5-point scale, such that larger numbers were more unfavorable. Specifically, coders were instructed to circle "1" if that word does not describe the character very well, circle "3" if it is neutral, and circle "5" if that word describes the character very well. The intermediate numbers (i.e., 2 & 4) were used if one end of the scale somewhat described the character. This evaluation was based on the character's overall persona on the show (i.e., their depiction over the entire episode).

First, the extent to which the character was articulate ($\alpha = .81$) was rated. This variable was defined as the ability to clearly and effectively express oneself (e.g., intent, ideas). Motivation ($\alpha = .81$) was assessed based on the degree to which the character was depicted as driven or naturally inspired to action. Ridicule ($\alpha = .89$) was rated based on the extent to which the character was made fun of or mocked. Character likeability ($\alpha = .78$) assessed the degree to which the character was found to be agreeable, enjoyable, or satisfactory by others. Intelligence ($\alpha = .92$) was coded based on the character's demonstrated intellect. Next, flirtatiousness ($\alpha = .90$) was evaluated based on the degree to which a character's behavior suggested a playful sexual attraction or behavior toward others. Last, the attractiveness ($\alpha = .70$) of the character was judged based on physical appeal and beauty.

To measure bullying ($\alpha = .86$), being bullied ($\alpha = .82$), and sexual activity ($\alpha = .90$), counts of these actions were reported as a ratio measure. Thus, each instance of sexual activity and each act of bullying or being bullied were counted. Sexual activity was a count of behaviors with a sexual intent, including implied or explicit behaviors such as seduction, kissing, intimate touching, and intercourse.

Acts of bullying were defined as the use of superior strength or influence to intimidate or abuse others. Acts representing being bullied were defined as those in which a character is the victim of other's superior strength, influence, or intimidation.

Finally, character's relational status ($\alpha = .83$) was identified as either single, married, or in a dating relationship, as stated or exemplified in the episode.

Results

To examine the hypothesis and research questions under investigation in the current study, frequencies, ANOVAs, and chi-squares with adjusted standardized residuals (ASR) were used, depending on statistical appropriateness and suitability for the question under investigation. Of note, in chi-square tests that include a variable with only two levels (e.g., gender) the values of the adjusted standardized residuals for the two groups are always equal in magnitude and opposite in sign.

Distribution of Body Types

First, to document the distribution of body types on prime time television, frequencies were calculated. Although the majority of characters were of healthy weight on television (64.20%, $n = 804$), nearly one-third (30.20%, $n = 378$) of all characters were underweight/excessively thin. Only 5.10% ($n = 64$) of characters were overweight or obese.

Hypothesis 1. Given results from previous content analyses indicating that body type is likely to vary based on the gender of the character, H_1 was proposed. Specifically, it was predicted that women would be portrayed as significantly thinner than men. Chi-square tests revealed significant differences in body type based on the gender of the character $\chi^2(2, N = 1,238) = 136.01$, Cramer's $V = .33$, $p < .001$. The adjusted standardized residual (ASR = 11.7, $p < .001$) indicates that the number of underweight women exceeded expected frequencies (49.30%, $n = 243$) whereas the number of underweight men fell below expectations (18.10%, $n = 135$). Men were also more likely to be portrayed as average/healthy (75.70%, $n = 564$, ASR = 10.2, $p < .001$) or overweight/obese (6.20%, $n = 46$, ASR = 2.1, $p < .05$) than women (47.30%, $n = 233$ & 3.40%, $n = 17$, respectively). Indeed, a t-test comparing female and male body size on television, $t(1241) = 11.33$, $p < .001$, $r = .31$, indicates that women ($M = 1.54$, $SD = .56$) are significantly thinner than men ($M = 1.88$, $SD = .48$).

Research Question 2. Because little consensus exists in terms of variations in body type based on the ethnicity of the character, RQ₂ asked if character body type varied based on ethnicity. Chi-square tests revealed that body type differed

significantly based on the ethnicity of the character $\chi^2(6, N = 1,192) = 27.07$, *Cramer's V* = .11, $p < .001$. Asian characters were most often characterized as underweight (51.10%, $n = 24$) and at a rate that significantly exceeded chance expectations (ASR = 3.1, $p < .01$). No Asian characters were depicted as overweight or obese. Black characters were depicted as overweight/obese (9.30%, $n = 17$, ASR = 2.6, $p < .01$) at a rate that exceeded expectations and as underweight at a frequency below expectations (20.80%, $n = 38$, ASR = -3.1, $p < .01$). Although ASRs revealed no other significant differences, it should be noted that among White characters, 31.80% were underweight ($n = 294$), 63.40% were healthy weight ($n = 586$), and 4.90% were overweight/obese ($n = 45$). The majority of Latino characters were healthy weight (78.40%, $n = 29$), with 18.9% portrayed as underweight ($n = 7$) and 1 depicted as overweight (2.70%). Using the original 9-point version of the body size scale in a one-way ANOVA to assess mean differences in weight across characters of different ethnicities revealed significant differences, $F(3, 1188) = 10.55$, $p < .001$, $\eta^2 = .02$. Specifically, Blacks ($M = 4.55$, $SD = 1.33$) and Latinos ($M = 4.54$, $SD = 1.19$) were, on average, the heaviest characters on prime time, significantly more so ($p < .01$) than their Asian counterparts on TV ($M = 3.57$, $SD = 0.95$). Black characters were also significantly heavier ($p < .01$) than White characters ($M = 4.14$, $SD = 1.23$). ANOVA testing a gender by ethnicity interaction in predicting character's body type was not significant $F(3, 1190) = 1.47$, $p = .22$, $\eta^2 = .00$.

Attributes Associated with Body Type

RQ_{1a-e} and RQ_{3a-e} asked whether the attributes accompanying different character body types on television varied based on the character's gender or ethnicity, in terms of: (a) success (i.e., intelligence, motivation, articulateness), (b) attractiveness, (c) likeability, (d) romance (i.e., flirtatiousness, sexual activity, relational status), and (e) physical and psychological treatment (i.e., ridicule, bully, bullied). Analysis of variance was used.

Gender by Body Type. A significant 2 (gender) x 3 (body type) interaction emerged in the ANOVA evaluating ratings of attractiveness (RQ_{1b}) $F(2, 1243) = 8.33$, $p < .01$, $\eta^2 = .01$. Simple effects tests ($p < .01$) revealed that overweight men ($M = 3.28$, $SD = .77$) and women ($M = 3.24$, $SD = .83$) were rated more unattractive than their healthy ($M = 2.52$, $SD = .78$ & $M = 2.33$, $SD = .78$, respectively) or underweight counterparts ($M = 2.41$, $SD = .74$ & $M = 1.83$, $SD = .64$, respectively). Moreover, underweight women ($M = 1.83$, $SD = .05$) and healthy weight women were rated significantly more attractive ($p < .01$) than underweight ($M = 2.41$, $SD = .07$) or healthy weight men. Overweight/obese men and women did not differ in terms of attractiveness.

A significant gender by body type interaction also emerged in depictions of being bullied (RQ_{1e}) $F(2, 1238) = 4.95$, $p < .01$, $\eta^2 = .01$. Specifically, healthy weight men

were significantly more often victims of bullying ($M = 0.04$, $SD = .21$, $p < .025$) than healthy weight women ($M = 0.01$, $SD = .09$). Additionally, underweight women were bullied significantly more often ($M = 0.07$, $SD = .27$, $p < .01$) than healthy weight women.

No other significant gender by body type interactions were revealed in ANOVAs. However, a number of main effects for body type did emerge. Specifically, a main effect for body type was revealed for articulate speech (RQ_{1a}), $F(2, 1241) = 5.10$, $p < .01$, $\eta^2 = .01$, indicating that overweight/obese characters were significantly less articulate ($M = 2.64$, $SD = .65$) at the $p < .05$ level, than either healthy ($M = 2.34$, $SD = .55$) or underweight characters ($M = 2.38$, $SD = .56$).

In addition, a main effect of body type on evaluations of character's intelligence (RQ_{1a}) was revealed $F(2, 1240) = 6.04$, $p < .01$, $\eta^2 = .01$, indicating that overweight/obese characters were portrayed as significantly more unintelligent ($M = 3.03$, $SD = .47$) than either healthy ($M = 2.75$, $SD = .55$, $p < .01$) or underweight characters ($M = 2.80$, $SD = .57$, $p < .01$).

A main effect for body type also was found on ratings of character likeability (RQ_{1c}), $F(2, 1241) = 5.26$, $p < .01$, $\eta^2 = .01$. Underweight characters ($M = 2.48$, $SD = .64$) were rated the most liked characters on TV, significantly more so than healthy weight ($M = 2.69$, $SD = .72$, $p < .01$) but not overweight/obese characters ($M = 2.64$, $SD = .80$). Body type also significantly predicted acts of bullying (RQ_{1e}), $F(2, 1239) = 3.35$, $p < .05$, $\eta^2 = .01$. Specifically, healthy weight characters were significantly more likely to engage in acts of bullying ($M = 0.08$, $SD = .31$, $p < .05$) than underweight characters ($M = 0.03$, $SD = .18$). A main effect for body type also was revealed for ridicule (RQ_{1e}), $F(2, 1240) = 4.26$, $p < .05$, $\eta^2 = .01$, such that overweight/obese characters ($M = 3.08$, $SD = .51$) were significantly more likely to be ridiculed than either healthy ($M = 2.90$, $SD = .46$, $p < .025$) or underweight characters ($M = 2.86$, $SD = .51$, $p < .01$).

Finally, chi-square tests revealed differences in relationship status (RQ_{1d}) depending on the body type of the character $\chi^2(4, N = 1,237) = 11.88$, *Cramer's V* = .07, $p < .05$ (coded as single, married, or in a relationship). ASRs indicate that underweight characters were depicted in relationships at a rate exceeding expected frequencies (12.60%, $n = 47$, $ASR = 3.1$, $p < .01$) and average/healthy weight characters were significantly less likely than would be expected to be in a relationship (7.50%, $n = 60$, $ASR = -2.2$, $p < .05$). No other significant effects for body type emerged.

Body Type by Ethnicity. A significant 3 (body type) by 4 (ethnicity) interaction emerged in the ANOVA test of ratings of character likeability (RQ_{3c}), $F(5, 1190) = 2.60$, $p < .025$, $\eta^2 = .01$. In particular, overweight/obese Black characters were significantly more likeable ($M = 2.18$, $SD = .39$) than their healthy weight Black counterparts on TV ($M = 2.74$, $SD = .70$, $p < .01$) but not their underweight Black peers on television ($M = 2.53$, $SD = .60$). For all other ethnic groups, character likeability was highest for underweight characters, followed by healthy weight characters. The analyses did not reveal any other significant ethnicity by body type interactions or main effects.

Discussion

The current quantitative content analysis documents the present state of body type depictions on prime time, English-language U.S. television. At first glance, this study's finding that average/healthy weight characters comprise the largest portion of figures on prime time television appears to suggest cause for optimism. On the other hand, results demonstrating a continuation in the 30-year trend of slimming down television characters in the United States (both female and male) are much less encouraging. Indeed, our finding that the number of women characterized as underweight on TV has risen to about half (signifying an increase of 18% percent from Greenberg et al.'s (2003), examination of the 1999–2000 season), borders on alarming. Further, the number of average/healthy weight women has decreased by 9% since the time of Greenberg et al.'s (2003) study. Men fare slightly better, with three out of four male TV characters found to be average/healthy weight. This disparity, especially when considering the decrease in average/healthy weight female characters, could be indicative of a growing gender chasm in body type portrayals.

In line with previous studies (Greenberg et al., 2003), we found a significant relationship between thinness and perceived attractiveness. Unsurprisingly, thinner women and men were more likely to be attractive. This relationship was more pronounced in female characters such that being thin meant overall higher ratings of attractiveness than it did for men. Additionally, likability also varied across body types. In general (but not always), heavier characters were less liked than thin characters.

Although some research indicates that characters of all ethnicities are becoming thinner on U.S. television (e.g., Baker, 2005), results from the present study converge with findings revealing that Blacks are heavier than other ethnic groups on TV (e.g., Greenberg et al., 2003). In terms of the manner in which these characters were portrayed, these data suggest that overweight/obese Black figures were more likable than both their healthy-weight and underweight Black counterparts as well as overweight/obese White and Latino characters (with no Asian characters depicted as overweight). Few studies have focused on the intersection of ethnicity, body type, and character attributions from an empirical perspective; however, the link between depictions of Blacks as overweight and with more positive character traits is not unprecedented. For example, the longstanding stereotype of the "mammy" found in early film and television (but also more recently in films such as *The Help*) characterizes Blacks (especially women) as overweight and desexualized, while simultaneously maternal, caring, and likable. In light of this, it is possible to interpret the current results in two ways. On the one hand, these findings may suggest improvements in the depiction of overweight/obese characters on television, at least for Blacks. On the other hand, this result may be an indication of the continued reliance on longstanding media stereotypes. Additional research is required to offer clarity into this characterization.

Potential Implications of Exposure: A Theoretical Perspective

As prime time television in the United States continues to draw millions of viewers on a nightly basis, it is important not only to document body type portrayals in this content, but also to consider how exposure to these extremes in body type might influence audiences. Two questions are of particular importance: (1) what are the theoretically understood effects of exposure to the continued reinforcement of the thin ideal, and (2) what does the omission and stigmatization of overweight characters on television mean, with respect to how society at large views overweight or obese individuals? Cultivation theory and social cognitive theory help explicate the potential implications of immediate and long-term consumption of this content.

Cultivation theory suggests that the overarching themes and frequencies of media messages, coupled with audience members' exposure rates, move viewers' social outlook toward the media version of reality (see Gerbner et al., 2002). Given the current study's findings that the media's standards of attractiveness are characterized by an increasingly thin body type (in-line with existing research), the implications are clear. Not only does exposure have the potential to skew perceptions about thinness but viewing such content may also normalize/idealize unnatural and unattainable body standards and prejudicial views about individuals with certain body types (Levine & Harrison, 2009). Indeed, Harrison (2003) found that the more television women watched the thinner their waist and hip ideal and the more dissatisfied they were with their bust size.

Further, the types of racial/ethnic exemplars offered on television could also promote problematic inferences about the composition (i.e., first order) and qualities (i.e., second order) of these groups. For instance, exposure to the messages documented here might lead to disproportionate associations of Blacks with overweight/obesity (since the proportion of overweight/obesity is highest for Blacks on TV) and even encourage a narrow set of beliefs about this group based on these representations.

Whereas cultivation theory addresses the relationship between television use and views about body ideals at a more macro level, SCT is useful when looking at the cognitive and behavioral implications of exposure to these media messages. Based on SCT, the pairing of thinness with favorable characteristics and obesity with negative qualities, may promote a number of harmful outcomes ranging from ostracizing overweight individuals to incentivizing engagement in dangerous behaviors to achieve the thin body ideal (Levine & Harrison, 2009). This may be particularly likely if demographic or psychological similarities exist between the media figure and the audience member. Given the meaningful social implications, future effects studies incorporating these content and audience-based features are in order.

Obesity and Television

The relationship between television exposure and obesity is a complicated one. Public health research (Braithwaite et al., 2013; Zhang, Wu, Zhou, Lu, & Mao, 2015) indicates that television viewing, particularly among children, has a dose-

response relationship with obesity—simply put, individuals who watch more television are also more likely to be obese or, at the very least, have a higher body mass index. The current data cannot speak to whether or not television usage rates promote obesity (or body types, more generally), but it can speak to the potential psychological and behavioral implications of exposure to messages about body type on obese/overweight individuals. To this point, an important element of the current study rests not in the findings themselves, but rather in what was not found. Despite the fact that 66.5% of U.S. women are either overweight or obese (Ogden, Carroll, Kit, & Flegal, 2014), we found that only about 3% of women on prime time were overweight/obese (a 7% decrease from Greenberg et al., 2003). Six percent of men in prime time were overweight or obese; a far cry from the proportion of the male population that is either overweight or obese in U.S. society (71.6%; Kaiser Family Foundation, 2012). Thus, it seems that individuals who watch the most television are not only the least likely to see themselves represented, but also are more likely to see individuals who “look” like them associated with negative attributes.

Both SCT and cultivation theory can help parse out potential implications of these shockingly disparate percentages. From a cultivation perspective, the severe underrepresentation of overweight or obese individuals on television reinforces the notion that these individuals are neither prevalent in the real world nor worthy of inclusion nor discussion (Peters & Aubrey, 2010). Taking an SCT approach, the association of negative attributes with obesity and the glorification of extreme thinness are undoubtedly problematic. Because such messages can serve as a source for the uptake of conduct, norms, standards, and self-efficacy beliefs among viewers, exposure to messages that ridicule, disparage, and marginalize overweight characters have the potential to carry over into viewers' everyday lives. Indeed, evidence of such effects has been demonstrated empirically (e.g., Latner et al., 2007). However, there is a dearth of work examining the impact of these messages on overweight individuals, specifically. Given the positive relationship between television consumption and BMI and that media effects are often associated with individuals who consume heavy amounts of media, it seems that overweight/obese individuals could be particularly at risk for negative attitudinal and behavioral consequences as a result of exposure. Accordingly, it is critical to understand how characterizations of body type across the spectrum influence such audiences.

Further Considerations

The present results, coupled with findings from existing media effects research, suggest several important areas for future study. In their meta-analysis of 77 experimental and correlational studies examining the impact of various media (e.g., magazines, television commercials, music videos, and television) on body dissatisfaction and internalization of the thin ideal, Grabe et al. (2008) found support for the association between media exposure and these negative outcomes. Specifically, 57% of the studies in their analysis found thin-ideal media exposure to be positively

related to body dissatisfaction, levels of bulimic and anorexic attitudes and behaviors, and the endorsement and internalization of the thin ideal among women. In concert with Levine and Harrison (2009), Grabe and colleagues (2008) called for an emphasis on educational solutions—in the form of increased media literacy among young adults—to tackle this societal concern. If the present study's results are any indication, such programs would be highly valuable, both in terms of mitigating the effects of exposure to the thin ideal as well as minimizing the impact of stigmatizing messages about obesity.

Future research also is required to more fully explicate the influence of exposure to all media messages on body dissatisfaction, self-efficacy, and well-being, of overweight/obese individuals. Although our findings demonstrate that the depiction of individuals with such body types is poor and infrequent, we cannot speak empirically to how these and other depictions (including the thin ideal) influence these viewers. Future longitudinal research and/or experimental designs should consider how media messages might differentially influence attitudes, behaviors, and incentives regarding food, depending on the body type of the viewer. Longitudinal work in this area would be particularly useful because cultivation and SCT effects are additive, and such data could help disentangle the temporal order of the problematic effects theorized above.

Limitations and Concluding Comments

This analysis provides a critical insight into the depiction of body types on prime time television in the United States; however, it is not without its limitations. First, although supported by theory and previous empirical work, the effects discussed above are speculative. Nonetheless, they serve as an essential foundation for future effects studies. Second, although we contend that television is an important medium from which to study depictions of body types, exposure to television content does not constitute the entirety of an individual's media exposure. Future research should continue to not only delineate how body types are depicted in traditional forms of media (i.e., television, magazines, and film), but also address how newer forms of media could interrupt or perpetuate these extremes in characterizations.

The results of this study indicate that body type portrayals in prime time television skew heavily toward thinner figures, both for men and women. Moreover, we found that the number of overweight and obese characters on television has decreased over the last 15 years; extending findings from previous decades. The few overweight and obese characters that were present were found to be significantly less likable (with the exception of Black characters), intelligent, and articulate. They were also more likely to be the victims of ridicule than were their average/healthy or underweight counterparts. Certainly, there is an inherent complexity to all media representations, but, as our findings indicate, problematic messages continue to pervade the U.S. media landscape. These data, together with previous work, underscore the need for continued

investigations into depictions of body type in the media and call for experimental and survey-based examinations of the effects of exposure to these messages.

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Does Political Advertising Lead to Online Information Seeking? A Real-World Test Using Google Search Data

Elizabeth Housholder, Brendan R. Watson, and Susan LoRusso

Though the political advertising literature has documented the effects of political advertising on political attitudes and voting behavior, less attention has been paid to the role of political advertising in stimulating information search. This study seeks to examine the impact of political advertising on real world information seeking using CMAG data from the Wisconsin Ad Project combined with Google Trends search data. Results suggest that increased advertising volume is associated with increased online information seeking. Additionally, this study tests the feasibility of using Google Trends search data as a proxy measure of political information seeking.

Political advertising's persuasive and mobilizing effects have been frequently studied in the political advertising literature. The effects of political advertising on information seeking, however, have received much less attention, despite the fact that knowledgeable voters are normatively important to a healthy, functioning democracy (Campbell, Converse, Miller, & Stokes, 1960). Furthermore, information seeking has been shown to affect downstream political engagement (Shah, Cho, Eveland, & Kwak, 2005).

Past research has demonstrated that voters are capable of gleaning relevant political knowledge directly from political news and political advertising (Brians & Wattenberg, 1996; Zhao & Chaffee, 1995). However, political advertising can also serve as a stimulus that provokes information seeking, including from online sources (Shah et al., 2007). This interplay between political advertising exposure and

Elizabeth Housholder (Ph.D. University of Minnesota) is a market research manager at Wellmark Blue Cross and Blue Shield in Des Moines, Iowa. Her research interests include political communication and the psychology of political advertising effects.

Brendan R. Watson (Ph.D., University of North Carolina) is an assistant professor of journalism innovations at Michigan State University. His research interests include community information needs; how emerging digital and participatory communication technologies, including social media, are/are not changing the availability of, and the public's interaction with, public affairs news and information; and quantitative research methods.

Susan LoRusso (Ph.D., University of Minnesota) is an assistant professor in the Hubbard School of Journalism and Mass Communication at the University of Minnesota. Her research interests include mass media effects and health.

subsequent information-seeking behavior has received little attention in the literature (notable exceptions include Cho, 2008; Shah et al., 2007; Valentino, Hutchings, & Williams, 2004). Furthermore, the relationship between political advertising exposure and non-self-report measures of information seeking has not been widely examined.

Thus, the purpose of this study is to examine the relationship between political advertising and political information seeking, using non self-report measures. As such, this study combines Campaign Media Analysis Group (CMAG) data from the Wisconsin Advertising Project and Google Trends data to examine the relationship between political advertising and online information seeking.

Literature Review

Previous research on political advertising has primarily focused on persuasion and mobilization effects. These previous studies of political advertising's direct effect on the political process continue to produce mixed results—for example, some studies have suggested that political advertising is a persuasive and mobilizing force in an election (Franz & Ridout, 2010; Valentino et al., 2004), while others have contested that conclusion (Lau & Rovner, 2009). As a result, there is a focus in the current literature on understanding the contingent conditions of political advertising's direct effects on political attitudes and behavior. Potential indirect effects of political advertising on the political process, including effects on political learning and information seeking have received, by comparison, less attention.

One way that political learning can occur is through voters internalizing and accepting arguments put forth directly in the political advertisement (c.f. Brians & Wattenberg, 1996; Valentino et al., 2004; and Lupia, 1994). Some studies have suggested that voters learn more about political candidates directly from political advertising than they do from broadcast news (Brians & Wattenberg, 1996; Patterson & McClure, 1976; limited support from Zhao & Chaffee, 1995). Additionally, Valentino et al. (2004) found that political advertising helped voters fill in the gaps in knowledge about political candidates.

However, political advertising may also indirectly influence political learning. Political learning can occur indirectly to the extent that political advertising prompts voters to engage in further information seeking. Political information seeking is important to the democratic and political process because it leads to a variety of positive political outcomes such as both online and offline political discussion (Shah et al., 2005, 2007), increased political participation (Jennings & Zeitner, 2003), and higher levels of political knowledge (Sotirovic & McLeod, 2004).

The current findings on the effects of political advertising exposure on information seeking have produced mixed results. Some work suggests that those who are exposed to very informative political advertisements are less likely to seek information about the issue presented in the ad (Lupia, 1994; Valentino et al., 2004). This effect is compounded with greater ad exposure—the more a viewer is exposed to a

political advertisement, the less likely they are to seek additional information (Valentino et al., 2004).

However, Lupia (1994) exposed participants to more information than would commonly be found in a 30-second spot, making it difficult to extrapolate information seeking behaviors to a political advertising context. Valentino et al. (2004) measured information seeking solely in the context of time spent on candidate Web sites. While this is one measure of information seeking behavior, it presumes that information seeking is limited to only candidate-related information and only one source. However, a broader conceptualization of political information seeking (Cho, 2008; Shah et al., 2007) has shown that political advertising exposure leads to subsequent political news use. Political advertising may prompt viewers to look for more information on a topic.

Therefore, this study investigated the role that political advertising plays in stimulating political information-seeking. However, one potential limitation of previous studies is the reliance on self-report measures of information seeking, which can be subject to errors in memory by survey respondents (Zaller, 1992). Thus, this study relied on non self-report, online search data.

Online Information Search

Recent work (Weeks, Friedenber, Southwell, & Slater, 2012), has suggested that aggregate online search data can be used in place of traditional survey measures of issue salience (i.e., the greater the volume of searches for a given topic, the more salient that topic must be) (Ayers, Althouse, Noar, & Cohen, 2014; Ragas, Tran, & Martin, 2014; Scharkow & Vogelgesang, 2011). For example, Weeks and Southwell (2010) determined that a spike in newspaper coverage of the rumor that President Barack Obama was secretly a Muslim also led to a spike in "Obama Muslim" Web searches, indicating issue salience.

However, Watson examined the correlation between Google Trends data and Gallup's "most important problem" question and found inconsistent support for the search equals salience hypothesis. During the Great Recession, for example, the percentage of Americans who said that the economy was the most important problem facing the country increased, as did Google searches for unemployment and economic assistance-related searches. At the same time, however, Google searches related to housing prices and retirement decreased, which is somewhat unexpected given the centrality of the housing crash to the overall economic crash in 2008. This issue avoidance is a common finding in health information seeking literature, where, for example, studies have found that patients newly diagnosed with terminal illnesses actively avoid information-seeking (Barbour, Rintamaki, Ramsey, & Brashers, 2012; Brashers, Goldsmith, & Hsieh, 2002). In the case of the long-term impact of a salient issue, many individuals would simply rather not know.

Because not all salient issues result in search, Watson (2013), suggested that instead of viewing aggregate search data as a measure of issue salience, they should

be viewed as indicators of information seeking. In order for information seeking to take place, there must be an underlying information need. Information needs arise when an initial stimulus makes a topic salient in an individual's mind and causes that individual to realize a gap between current information possession and the information he/she needs to make sense of the new stimulus (Timmins, 2006).

For example, a voter may believe that Obama's healthcare plan will lower the cost of their health insurance, and thus favors the plan. However, he/she sees an ad on TV claiming that under Obama's plan, health care may be rationed. This claim is frightening for this voter, whose health is relatively fragile. Thus, as a result of the ad (a stimulus), there is now a gap between the information the voter previously had (Obama's healthcare plan will be good for him/her) and the information that the voter needs to resolve the incongruity presented by the ad. As a result, that voter may go online to seek additional information about Obama's healthcare plan.

We expect that political advertising leads to increased information seeking because it serves as a stimulus that creates discrepancies between the political information voters already possess and information they need to make sense of claims made in the advertisements. To the extent that voters perceive value in further information seeking, the volume of advertisements on a given political topic will be associated with an increase in information seeking (i.e., an increase in the volume of related Web searches).

H₁: Political advertising volume will be positively correlated with online political information seeking.

Advertising Tone

Additionally, this study considers the role that political advertising tone plays in stimulating information search. Past research suggests that greater volumes of negative campaigning lead to greater levels of anxiety in voters (Martin, 2004), which has been shown to increase information seeking across a large range of political contexts (Valentino et al., 2008). Marcus, Neuman, and MacKuen (2000) found that voters who reported being anxious about their own party were more likely to look for information about the campaign. Valentino et al. (2008), found similar results, showing also that anxious voters learned more from their information search. Generally, anxiety makes voters more interested in obtaining information (Brader, Valentino, & Suhay, 2008; Kubey & Peluso, 1990). This is also true of anxiety induced by political advertising. Brader (2006) demonstrated that participants exposed to a fear cue in political advertising were more likely to want to follow political news about the campaign. As such, we expect that a greater volume of negative political advertising will lead to increased information-seeking. Increased information-seeking, for the purposes of this study, has been defined as an increased volume of Google Trends search data on a specific topic.

H₂: Increased volume of negative political advertising will lead to increased political information seeking.

Additionally, information seeking may be depressed by positive political advertising. Brader (2006) demonstrated that political advertisements that contain enthusiasm (i.e., overly positive) appeals did not stimulate desire for more information about political campaigns, suggesting a different effect of positive information. The first research question examines the nature of the relationship between positive political advertising volume and political information seeking.

R₁: How does the volume of positive political advertising affect political information seeking?

Methods

In order to examine the correlation between the volume of political advertising on a given subject and the related online political information seeking, this study combines data from the Wisconsin Advertising Project with Google Trends data during the 2008 presidential election.

Political Advertising Data

The political advertising data were obtained from the Wisconsin Advertising Project. (Goldstein, Niebler, Neiheisel, & Holleque, 2011). The project collects and analyzes all political advertisements run on broadcast and cable television by presidential, congressional and gubernatorial candidates during presidential and midterm election cycles in the 100 largest U.S. media markets. This study analyzed data from the 2008 presidential election, the most recently available presidential data. The presidential race was the primary focus of this study, to facilitate comparisons across states, as all voters within a state have the same choices for president. Each ad run during the presidential campaign was coded by independent coders on a variety of variables, including the topic of the ad and tone (positive or negative). All coding was performed by trained coders specifically associated with the Wisconsin Advertising Project at the project site.

Though the original advertising data were organized by ad, this project required the data to be aggregated by day. Daily data are required as Google Trends data track the change in the volume of searches on a given topic from one day to the next. The final data set counts the number of ads on a specific topic run in a particular state on a particular day; topical ads were also broken down by tone (e.g., positive tax ads and negative tax ads). For example, one variable might be all negative ads run on the issue of jobs in the state of Florida or all positive ads run on the issue of

taxes in the state of Virginia. This data structure allowed us to see how political advertising volume of a certain type (i.e., tone/subject) changed over the course of the final 2 months of the election. By making the data directly comparable to the Google Trends data, the data represent a count of all ads run on that topic with a specific tone in a state on a day.

Ads that were run more than one time in a day were counted every time they ran. Though the CMAG data looks specifically at media markets (i.e., designated marketing areas or DMA), they also include a variable that registers the FIPS state code designation for the specific state that the ad ran in. Given that the Google Trends data (discussed below) could only be broken down to the state level—as opposed to the DMA level—the political advertising data were aggregated based on this FIPS code variable instead of the specific DMA where each advertisement ran. This ensured that both data sources originated from comparable geographic areas.

The current study focuses on economic issues during the 2008 presidential election. Economic issues played a prominent role in the 2008 election, which followed the stock market crash on 29 September 2008. Topics related to the economy represent a natural test of the information-seeking hypothesis, as economic issues are considered “hard issues” (Carmines & Stimson, 1980) for most voters and an area where subsequent information seeking would reasonably be expected for voter issue comprehension. Within economic topics, this study focused on the three largest advertising topics: taxes (68.3% of economic ads, 48.4% of all ads), jobs (32.9% of economic ads, 23.3% of all ads) and government spending (21.8% of economic ads, 15.5% of all ads). In total, the dataset included 168,062 advertisements, 63,873 from Florida; 57,875 from Pennsylvania, and 46,314 from Virginia.

Google Trends Data

The Wisconsin Advertising Project data were matched with Google Trends data, which track the relative volume of search terms over a specific period of time (Google, n.d.). Google Trends data are only available on a daily basis for 90-day search windows. The peak in searches during a particular search window is assigned the value of 100 and everything else is measured relative to that peak. Because data are normalized based on a specific period of time, a value of 100 during one 90-day window does not necessarily represent the same volume of search as a value of 100 during another 90-day window. Thus, it is not possible to combine multiple periods of search data. This study is restricted to a single 90-day window of search data from September 1, 2008, through 30 November 2008 (users are restricted to specifying search periods by month).

Additionally, the availability of Google Trends data in 2008 was limited in some geographies by the lack of search volume. Due to a lack of search volume in less populous states, our study was restricted to those more populous swing states with significant population centers. These states were Florida, Pennsylvania, and Virginia.

In order to generate a list of appropriate online search terms, we referenced the storyboards provided by the Wisconsin Advertising Project for the advertisements that ran in Florida, Virginia, and Pennsylvania in reference to taxes, jobs, or government spending. When searching for a given phrase in Google Trends, the site provides a list of related search terms, which can be used as a guide for which terms might reasonably be excluded. For example, the search string “tax -file -return -refund -turbo -calculator” captures searches related to the larger issue of taxation, while eliminating popular searches related to preparing one’s personal taxes. In addition to this tax search string, for government spending/debt we searched for “debt -credit -collection -relief -consolidation -management -in -equity -settlement -calculator -free.” Given the prominence of economic issues in the 2008 elections, these terms reached the threshold necessary to provide daily data in each of the states of interest.

Previous studies using Google Trends data have primarily used individual search phrases. Watson (2013), however, illustrated that searches for a broad topic like the economy are multidimensional, and that multiple search terms can be used to create scales consisting of related terms that better capture a wider range of search terms. The limited search volume for most phrases prevented us from creating more complex scales of related search terms, except on the topic of jobs. We created a scale consisting of three search strings: “jobs -steve,” “employment -law,” and “unemployment.” The scale consisted of the average volume of these search strings. The scale, however, was only valid for Florida ($\alpha = .86$) and Pennsylvania ($\alpha = .86$). The reliability of the scale in Virginia was $\alpha = .59$. Thus, we used the scale in all three states, but also analyzed employment and unemployment, proxy themes that appeared most frequently in the advertising storyboards, separately.

Data Analysis

To address our hypotheses and research question, we analyzed the bivariate correlations between the volume of political advertising in a particular category—with the relative volume of Google searches for related terms—using R version 2.15.1. However, prior to analyzing the correlation between advertising and search, it was necessary to make sure that the data were stationary. In a stationary time series, the value of variable x is independent of the time at which it was observed. In order to ensure the time series were stationary, an augmented Dickey-Fuller test was conducted. A statistically significant augmented Dickey-Fuller test indicating the null-hypothesis that there is a unit root (i.e., time-correlated data part) can be rejected (Enders, 2009, p. 206–209). Generally speaking, the search data were stationary, but the advertising data were not.

In order to make the advertising data stationary (i.e., to pre-whiten the data), we fitted an ARIMA (auto-regressive, integrated, moving average) model to the data. An ARIMA model has three parts: the AR, or autoregressive component, the I, or integrated component, and the MA, or moving average component. In an auto-regressive model, the value

of the series at a given period of time $x(t)$ is a function of its previous value at $X(t-1)$. An integrated series is a time series with a trend and or seasonal changes. One way to remove a trend or seasonality from a time series is to difference a series so that the value $d(t)$ equals $x(t)-x(t-1)$. Lastly, in a time series with a moving average, or MA component, the error term $e(t)$ is correlated with $e(t-1)$. In order to specify the appropriate ARIMA model to make the time series stationary we used the `auto.arima` function in the “forecast” package in R (Hyndman, 2014). Once an appropriate ARIMA model is fit to the non-stationary time series, the extracted residuals of the ARIMA model are a stationary series and can be used for further analysis.

To draw valid comparisons, that same ARIMA model should be used to filter all series that are being compared. Campaigns have unique advertising strategies for different campaign topics and for different states depending on how a candidate is polling on a particular subject in a particular state. Thus, ARIMA models used to make the advertising data stationary were allowed to vary by topic and state. However, the same ARIMA model was used to pre-whiten positive and negative ads on the same topic, in the same state (e.g., Pennsylvania). Because different models were used in different states and across topics, we did not examine correlations between states or topics. However, because we used the same ARIMA models for both negative and positive ads, we can compare the tone of the ads. The particular ARIMA models used to pre-whiten the data are indicated in Tables 1–3. After data were pre-whitened, additional augmented Dickey-Fuller tests were conducted to ensure that the final time series were stationary.

Table 1
Political Advertising and Online Political Information Seeking: Florida

Number of political ads run	Google searches				
	Taxes _{FL} ^a	Jobs1 _{FL} ^b	Jobs2 _{FL} ^b	Jobs3 _{FL} ^b	Gov. Spending _{FL} ^b
Taxes _{Pos}	.31*				
Taxes _{Neg}	.35**				
Taxes _{Total}	.45***				
Jobs _{Pos}		.32*	.44*	.29*	
Jobs _{Neg}		.09	.09	.38**	
Jobs _{Total}		.21	.31*	.50**	
Gov. spending _{Pos}					.10
Gov. spending _{Neg}					.06
Gov. spending _{Total}					-.06

^aPre-whitened using an ARIMA(0,1,2) model; ^b pre-whitened using an ARIMA (0,1,1) model; data in horizontal rows were pre-whitened using the same ARIMA models as used in the vertical columns. Jobs1 is average of searches for jobs, employment, and unemployment; Jobs2 is just searches for employment; Jobs3 is searches for just unemployment. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 2
Political Advertising and Online Political Information Seeking: Virginia

Number of political ads run	Google searches				
	Taxes _{VA} ^a	Jobs1 _{VA} ^b	Jobs2 _{VA} ^b	Jobs3 _{VA} ^b	Gov. Spending _{VA} ^b
Taxes _{Pos}	.44***				
Taxes _{Neg}	.37**				
Taxes _{Total}	.52***				
Jobs _{Pos}		.39**	.29*	.25*	
Jobs _{Neg}		.14	.21	.30*	
Jobs _{Total}		.36**	.46***	.46***	
Gov. spending _{Pos}					.09
Gov. spending _{Neg}					-.09
Gov. spending _{Total}					.06

^aPre-whitened using an ARIMA(0,1,2) model; ^b pre-whitened using an ARIMA(0,1,1) model; ^c pre-whitened using an ARIMA(1,0,0) model; data in horizontal rows were pre-whitened using the same ARIMA models as used in the vertical columns. Jobs1 is average of searches for jobs, employment, and unemployment; Jobs2 is just searches for employment; Jobs3 is searches for just unemployment. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Table 3
Political Advertising and Online Political Information Seeking: Pennsylvania

Number of political ads run	Google searches				
	Taxes _{PA} ^a	Jobs1 _{PA} ^b	Jobs2 _{PA} ^b	Jobs3 _{PA} ^b	Gov. Spending _{PA} ^a
Taxes _{Pos}	.36**				
Taxes _{Neg}	.46***				
Taxes _{Total}	.64***				
Jobs _{Pos}		.12	.30*	-.08	
Jobs _{Neg}		.21	.17	.11	
Jobs _{Total}		.24	.29*	.06	
Gov. Spending _{Pos}					.01
Gov. spending _{Neg}					-.07
Gov. spending _{Total}					-.02

^a Pre-whitened using an ARIMA(0,1,1) model; ^bpre-whitened using an ARIMA (1,1,0) model; data in horizontal rows were pre-whitened using the same ARIMA models as used in the vertical columns. Jobs1 is average of searches for jobs, employment, and unemployment; Jobs2 is just searches for employment; Jobs3 is searches for just unemployment. * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Results

Tables 1–3 show the correlations between the pre-whitened and filtered time series. The cross-correlogram for each of the pairs of series shows that the correlations between the series were greatest at lag 0 (i.e., the strongest relationship between political advertising and online search are on the same day). Put another way, if a voter is exposed to a political advertisement today, they are also most likely to go online to search for related information today (as opposed to the next day).

The first hypothesis predicted that the volume of political advertising on a particular topic would be positively associated with the volume of aggregate Web searches for that same topic. To answer this hypothesis, we examined the correlations between the total volume of advertisements for a given topic (which includes both positive and negative ads), and the volume of aggregate Web searches for related information. The total volume of political advertisements about taxes and aggregate Web searches for tax-related information were positively correlated across all three states ($r_{FL} = .45, p < .001$, $r_{VA} = .52, p < .001$, and $r_{PA} = .64, p < .001$). Put another way, the volume of political advertisements on tax issues explained 20% to 41% of the variance in related aggregate Web searches. The volume of political advertisements that mentioned jobs and searches for employment was also positively correlated in all three states ($r_{FL} = .31, p < .01$, $r_{VA} = .46, p < .001$, and $r_{PA} = .29, p < .05$).

However, political advertising volume about jobs and Web searches for unemployment were only correlated in Florida ($r_{FL} = .50, p < .001$) and Virginia ($r_{VA} = .46, p < .001$). Furthermore, volume of political advertisements about jobs and Web searches for the index of jobs-related searches (including both employment and unemployment) was only correlated in Virginia ($r_{VA} = .36, p < .01$). Advertising volume and Web searches related to government spending/government debt were not significantly correlated in any of the states. Thus, H_1 was partially supported.

As there were not significant correlations between volume of advertising about government spending/debt and aggregate search data, this topic was excluded from subsequent analyses.

The second hypothesis posited that increased volume of negative political advertising would lead to increased information seeking. To test this hypothesis, we examined the correlations between the volume of negative political advertisements on a specific topic (e.g., volume of positive tax ads or volume of negative tax ads) and related search terms. There are two main limitations in attempting to parse the role of tone in these data. First, ads were coded based on how they portrayed a candidate, not the issue (though the two will often be related—i.e., a positive ad about a candidate will discuss the candidate's plan to grow the number of jobs). Second, in addition to considering the tone of the ad, one should also consider the tone of the searches (e.g., individuals searching for "employment" might have a brighter outlook than those searching for "unemployment.")

Examining the correlations between negative political advertisements about taxes and tax-related searches, there does appear to be a relationship between negative tax ads and Web searches for tax-related information in Florida ($r_{neg} = .35, p < .01$), Pennsylvania ($r_{neg} = .46, p < .001$), and Virginia ($r_{neg} = .37, p < .01$).

However, the role that negative political advertising volume plays in relation to information seeking for jobs is less clear. In all three states, negative political advertising on jobs is uniformly unrelated to the general jobs search index, suggesting a lack of support for the second hypothesis. However, post-hoc analyses of the data tell a slightly different story.

When thinking about search terms that voters might use when looking for information, it is important to consider the original verbiage used in the advertisements. Job-focused negative political advertising discusses unemployment specifically. To the extent that voters are likely to use similar search terms, it is reasonable to expect that negative political advertising on jobs would be related to searches for “unemployment” rather than “employment.” Tables 1–3 detail the correlations between negative political advertisements about jobs and Web searches for unemployment. The correlations between the volume of political ads and searches are greater when the tone of the ads and the tone of the search match. The correlation between negative job ads and searches in Florida for unemployment is $r = .38, p < .01$, but for employment searches is $r = .09, p > .05$. This pattern holds for Virginia as well ($r_{\text{unemployment}} = .30, p < .01$; $r_{\text{employment}} = .14, p > .05$). In Pennsylvania the correlations between negative political ads and unemployment ($r = .11, p > .05$) were not statistically significant. Thus, while there is not a consistently clear pattern in either more positive or more negative advertisements being more strongly correlated with similarly valenced Web searches, those correlations do appear to be stronger when there is a match between the tone of the ad and the valence of the search terms. Thus, the ad hoc data provide conditional support for the second hypothesis.

The research question investigated the relationship between positive political advertising volume and information seeking. In Florida, positive political advertising about taxes was significantly and positively correlated with greater search volume on taxes ($r = .31, p < .05$). The same holds true for both Pennsylvania ($r = .36, p < .01$) and Virginia ($r = .44, p < .001$).

When considering the effect of positive political advertising on search for jobs, the same basic pattern holds. In Pennsylvania, positive political advertising is significantly related to search for “employment” ($r = .30, p < .05$). In Virginia, positive political advertising is significantly related to all three jobs search terms ($r_{\text{general}} = .39, p < .01$; $r_{\text{employment}} = .29, p < .05$; $r_{\text{unemployment}} = .25, p < .05$). The same pattern holds for Florida as well ($r_{\text{general}} = .32, p < .05$; $r_{\text{employment}} = .44, p < .05$; $r_{\text{unemployment}} = .29, p < .05$).

Additionally, when further examining the impact of tone for the subject of jobs, we can see from Tables 1–3 that positive political advertising had a greater effect on search for positively valenced words (i.e., “employment”) than negatively valenced words (i.e., “unemployment”). To answer the research question, it appears that positive political advertising has an overall substantial and positive effect on political information search.

Discussion

In 2008, the year data for this study were collected, more than 74% of Internet users—or, 55% of the adult U.S. population—went online to search for political news and information (Smith, 2009). The role of online information seeking in future campaigns will only grow in importance. Given the importance of online information seeking for gathering information about campaigns and potentially motivating political learning and voting, it is important to understand what factors potentially motivate online political information seeking. This study found that political advertising is one potential factor that influences online political information seeking. Generally speaking, an increase in the volume of political advertising aired on a given day was positively correlated with a same-day spike in related online searches. These findings run contrary to previous studies that have found that exposure to political ads depress information seeking (Lupia, 1994; Valentino et al., 2004). We believe that these discrepancies are primarily due to the limited scope of information seeking that these experimental studies examined. It makes sense that if someone has already been exposed to a candidate's message, one may have less interest in further information about that candidate specifically. By using aggregate online search data, however, we were able to examine a broader range of online information seeking and found evidence that political ads may serve as a stimulus for voters to go online to seek additional information about *issues* mentioned in a political advertisement (in line with work by Cho, 2008; Shah et al., 2007).

It is very difficult, if not impossible, to isolate the effects of online political advertising from other coordinated campaign activities and news coverage of campaigns using the type of aggregate data we utilized in this study. However, the fact that there is an increase in online searches the same day a political ad drops is a good indicator of the relationship between political advertising and online information seeking. Online search terms were also carefully chosen to focus on specific topics of the ads, rather than political topics and campaign events more generally. Furthermore, even if another coordinated campaign event was covered online the same day, a spike in online information seeking might not be expected until coverage of that event had made its way around the talk-show circuit in subsequent news cycles. Nonetheless, given the importance of online political information seeking, future studies should examine other variables that might also influence potential voters to seek out information online and potentially isolate the relative influence of these other variables. This current study, though, provides important insights towards advancing the field's understanding of the potential role of political advertising in motivating online political information seeking.

There were some instances in our study in which the volume of political advertising was more strong/weakly correlated, or not correlated at all. The volume of advertisements related to government spending and searches for related search terms were not significantly correlated. One potential reason could be the limitation

of the search terms for which we could obtain data. However, the reliance on data from a relatively small number of populous swing states is less problematic given that most political advertising tends to also be concentrated on competitive races and highly populated swing states. Additionally, the availability of Google Trends data (and the use of Google) has increased since the 2008 election. Future studies should look for additional sources of data on online users' behavior to both validate and extend the findings of this largely exploratory study. Different data sources may also present future opportunities to examine a broader set of political issues, and less populated, more rural states.

Additionally, it is also possible that voters' information-seeking behaviors vary based on the subject mentioned in political ads. Whereas voters can understand most tax and job-related political issues in terms of their personal pocketbooks, the direct impact of most federal budget issues are less clear. To the extent that political advertisements serve as a stimulus that creates an information need—a gap between the information voters already have on an issue and the information they need to comprehend the subject of the ad, voters may be motivated to engage in online political information-seeking. However, voters may not seek additional information if they believe that due to the complexity of the topic they will not be able to find or understand further information (Savolainen, 2011).

The relationship between political advertising and information seeking is also likely influenced by users' cognitive perceptions and processes, which could not be deciphered in aggregate online search data. In terms of how users' perceptions of a given issue may influence search patterns, a stronger correlation between negative tax ads and online searches for tax-related information existed in Florida and Pennsylvania. While these findings are consistent with Brader (2005), who suggested that negative political advertising leads to more information seeking, positive tax ads were found to have a strong effect on information seeking in Virginia.

This difference could be due to how ads were coded. Ads were coded based on how they portrayed the candidate, not the issue. That is, an ad could talk about how horrible the state of the economy is, but promise that a particular candidate is going to lift the nation out of those economic doldrums. This ad would be coded as being "positive," even though the picture it paints of the economy is very negative. Thus, advertisements themselves can contain contradictory "tones." How viewers perceive the ads is also not necessarily consistent with objective coders' categorization of political ads. For example, compared to residents of Florida and Pennsylvania, Virginian residents may perceive "positive" tax ads quite differently. During the 2008 election, Barack Obama ran quite a few ads that suggested he would raise taxes for those making \$250,000 a year or more. Clearly these ads were intended to put a positive spin on his candidacy, and were coded as such by the Wisconsin Advertising Project. These ads were also likely perceived as being positive by many in Pennsylvania and Florida, where median incomes lag the national averages (U.S. Census Bureau, n.d.) (i.e., the rich are going to be made to pay their fair share). However, in Virginia, where the median income is significantly higher than the national average and four of the state's northern counties rank among the country's

top-ten wealthiest (U.S. Census, 2013), these “positive” ads could have led to greater search among a significant number of residents concerned about the negative impact Obama’s election would have on their tax burden.

Furthermore, it is important to consider not only how voters perceive the tone of the ad, but also how they cognitively process information and construct related searches, including the valence of those searches. Aggregate search data do not provide a clear window into the cognitive processes and emotional states of online users. However, our study found evidence that there are stronger correlations between the volume of ads and online searches when the valence of the two match (i.e., negative ads about jobs result in a greater number of searches for “unemployment,” whereas positive ads result in a greater number of searches for “employment”).

The aggregate search data used in this study have their limits; the availability of data was limited by the popularity of search terms and data were only available for relatively short 90-day windows. Insights into users’ perceptions and cognitive processes are also limited to the most tentative interpretations of aggregate search behaviors. However, our results do support the contention of previous research that suggests that political advertising generally leads to increased information seeking by voters (Cho, 2008; Shah et al., 2007). Research into the effect of political advertising and information seeking has been limited in quantity and scope, but should be expanded, particularly to the extent that information seeking leads to increased political talk and indirectly to political participation (Shah et al., 2005).

One of the contributions of this study is to highlight the necessity of conceptualizing information seeking stimulated by political advertising in terms of political topics as opposed to candidate-specific information. Future studies should both seek to expand this study’s findings to additional political topics, as well as verify the results using data from a larger number of states. Future studies might also track online political information seeking over time (i.e., is online information seeking increasing, and what implications does that have for political processes?). This study also suggests additional questions that can add to theory building in this area, including whether and why political information seeking is dependent on the topic of political ads. Some of these questions might be explored using aggregate search data, as well as additional sources of data that track actual online users’ behavior during a campaign. However, there is also a need for additional experimental research that can more clearly illuminate the cognitive processes that contribute to political information seeking. Overall, though, this study highlights the need and opportunity for additional research on political information seeking generally, and more specifically the effects of political advertising on information seeking, in the political communication literature.

Additionally, this study examines the feasibility of using Google Trends data as a proxy measure of political information seeking. Aggregate search data presents a unique opportunity for researchers interested in using online trace data as non self-report measures of political information seeking. However, there are certain qualifications to using Google Trends data. The first qualification has to do with the

availability of data. The number of Google searches per day have doubled since 2008 (Google Search Statistics, n.d.), and as previously demonstrated, the availability of Google Trends data appears to be expanding beyond the relatively limited number of states that we had to rely on for this initial study. Another potential limitation of using aggregate search data is the 90-day window if one desires daily search data. Because Google Trends data are indexed over the 90-day period, it is not possible to compare time periods. However, to the extent that most political advertising occurs in the 3 months before a general, midterm, or primary election, this is not necessarily problematic.

Overall, as the information provided by Google Trends data continues to grow and evolve, it remains a promising source of aggregate data on political information seeking. It is worth noting that as the Internet's role in political campaigning continues to grow and voters turn to the Internet for political information in greater numbers, the availability of Google Trends data, even in more populous states, is likely to increase. Future work in this area should try to compare information seeking indicators gleaned from Google Trends with political information seeking in nationally representative surveys. However, Google Trends currently provides a real-world, cost effective mechanism for gathering data on political information seeking.

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Narratives in Political Advertising: An Analysis of the Political Advertisements in the 2014 Midterm Elections

Michail Vafeiadis, Ruobing Li & Fuyuan Shen

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Narratives in Political Advertising: An Analysis of the Political Advertisements in the 2014 Midterm Elections

Michail Vafeiadis, Ruobing Li, and Fuyuan Shen

This study examined the use of narrative political advertisements during the 2014 midterm elections. A content analysis of 243 ads identified three narrative types: autobiographical, voter stories, and testimonials. Narrative ads were mostly positive and focused almost equally on issues and candidates' characters. Negative attack ads and anonymous announcers were primarily used by candidates who lost the election, whereas winners employed more often autobiographical spots and included family members in the ads. The growing use of narratives in political advertising as found in the present study suggests that future research should further examine the effects of narrative political ads on individuals.

Over the past decades, scholars have investigated from a variety of angles how voters formulate their preferences towards candidates after watching political ads (Chang, 2001; Valentino, Hutchings, & Williams, 2004). Political ads can enhance the popularity and name recognition of previously unknown candidates, attract new voters, connect candidates with particular demographic groups (Devlin, 1986; Sabato, 1981) and help voters retain information on candidates' image characteristics or stance on issues (Atkin & Heald, 1976; Kaid, 2002). Research has shown that the ubiquity of televised political ads during elections can also enhance issue knowledge among voters (Brians & Wattenberg, 1996).

With the advent of the Internet, voters now receive a cross-platform barrage of political advertisements with the goal to either win undecided voters or to urge party supporters to go to the election polls.

Michail Vafeiadis (Ph.D., The Pennsylvania State University) is assistant professor in the School of Communication and Journalism at Auburn University. His research interests include strategic communication with an emphasis on social media.

Ruobing Li (Ph.D., The Pennsylvania State University) is assistant professor in the Manship School of Mass Communication at Louisiana State University. Her research interests include strategic communication, media effects, and computer-mediated communication.

Fuyuan Shen (Ph.D., University of North Carolina at Chapel Hill) is professor of communications at Pennsylvania State University. His research interests include persuasion, media effects and strategic communication.

Previous research has explored the role of issue and image spots in information processing for voters, and found that they may have different effects on recall and candidate evaluations (Johnston & Kaid, 2002). An extensive body of research has also investigated the effectiveness of negative political advertisements during elections and has yielded mixed results. It has been suggested that negative political advertising may contribute to political cynicism and low turnout (Ansolabehere & Iyengar, 1994; Kaid & Postelnicu, 2005), its effects are minimal or nonexistent (Allen & Burrell, 2002; Lau, Sigelman, Heldman, & Babbitt, 1999), or it can bolster candidates (Devlin, 1995). Past studies have also examined the nonverbal elements included in political ads such as when anonymous announcers or candidates are employed as primary speakers (Kaid & Johnston, 2001).

Nevertheless, there is a paucity of literature exploring the role of narratives in political advertising. Narratives are essentially stories that people tell (Shen, Sheer, & Li, 2015), and have been previously studied in various contexts (Dillard & Main, 2013; Escalas, 2004; Mattila, 2000). The effectiveness of narratives stems from their ability to act implicitly as persuasion tools for changing beliefs and attitudes. In recent years, the use of narratives in political advertising has been on the rise. Yet, limited research has examined their role in political advertising.

This study therefore extends the research of political advertising by content-analyzing all the narrative political ads that were aired during the 2014 midterm gubernatorial and senatorial campaigns in the United States. These ads were broadcasted on television, but sometimes the same ads were also displayed on the candidate's Web site, or were specifically produced for the Internet and uploaded to the candidate's election-dedicated YouTube channel.

In the following sections, a review of the literature on political advertising, along with a conceptual background of narratives is provided. Then, the results of the analysis of the political ads during the 2014 mid-term elections are reported. Finally, this paper concludes with a discussion of the findings' practical implications.

Literature Review

Political Advertising

Political advertisements are critical for effective campaigns. Their significance derives from the fact that voters are often informed about a candidate's position on issues from advertisements rather than the news (Patterson & McClure, 1976; Zhao & Bleske, 1995). Early research by Patterson and McClure (1976) found that there was a 36% increase in issue knowledge for heavy viewers of TV political advertisements, whereas the increase for those who viewed only a handful of advertisements was 25%. Overall, according to the same researchers, the impact of political advertising is more conspicuous for moderate or less interested voters than attentive ones. Since elections are a comparative process where people vote for the candidate who better reflects their most salient selection criteria (Brazeal & Benoit, 2001), political

advertisements provide significant nuggets of information. One meta-analysis found that political spots educated voters about issues and the candidates' personality traits, but also impacted the formation of their preferences, vote choice, as well as likelihood to vote (Benoit, Leshner, & Chattopadhyay, 2007). Political ads are even more important during congressional races in comparison to presidential elections because of the smaller constituencies, lower turnout, and the information shortage about the candidates (Brazeal & Benoit, 2001).

Advertising effects depend on the theme of the advertisement as well as voters' characteristics (Franz & Ridout, 2010). Political advertisements can either paint a favorable image of the candidates by focusing on their character or stance on issues or they are employed to negatively portray their opponents. In so doing, political ads may undertake a variety of forms depending on what is the main message they want to convey. Shyles (1984) identified two different types of political ads: image ads that highlight the personal qualities of the candidate and issue ads that underline political issues. Character or image ads relay a candidate's qualities such as leadership, honesty, trustworthiness, competence, and compassion (Kaid & Johnston, 1991). Conversely, issue ads often contain information about a candidate's stance on policies or issues and attempt to differentiate candidates from their opponents.

Prior studies have also investigated advertising strategies based on whether the race involved a challenger or an incumbent candidate. In a study about the political ads pertaining to various elective offices (local, state, federal) during the 1998 Missouri campaign, Benoit (2000) found that challengers were more likely to highlight issues and the attributes of the opponent, in comparison to incumbents, who focused on acclaims, that is, self-praise of the candidate's accomplishments while in office. A study on the 2004 gubernatorial and senatorial elections indicated that both incumbents (62%) and challengers (56%) stressed policy over character (Benoit & Airne, 2009). Conversely, a slight preference for character was detected for open seat races.

Critics of television political ads have argued that they disproportionately feature image-related elements instead of discussing issues, a process also hindered by the 30-second spots which do not allow for the elaboration of complex issues (Johnston & Kaid, 2002). Earlier studies showed that character-based ads were more common than policy ones. Joslyn (1980) reported that 40% of advertisements by senatorial candidates discussed the candidates' characters, whereas 24% were issue ads. A study of the 1986 Republican senatorial ads, however, found that issue- and image-based ads were equally represented in the examined spots (Payne & Baukus, 1988). Some researchers have posited that it is more likely for issue ads to generate favorable feelings towards the candidate than image-based ads (Christ & Thorson, 1994). More recently, however, studies have shown that 70% of political ads were issue-related in comparison to roughly 30% that were character-related (Kaid & Johnston, 2001). Similarly, Brazeal and Benoit (2006) suggested that issue or policy ads were used more frequently than image ones. On the other hand, in a study of 1,204 presidential campaign ads, Kaid and Johnston (2001) found that images and issues were both present in ads. Moreover, they also suggested that among the most

featured candidates' character attributes were performance, success, competence, aggressiveness, and honesty. Finally, image and issue ads may elicit different evaluations of candidates and information recall. Particularly, issue ads are likely to enhance a candidate's image ratings, whereas image ads can generate greater recall of information (Kaid & Sanders, 1978), especially when the candidate is not well known (Schleuder, 1990). Johnson and Kaid (2002) found that 70% of image ads, as opposed to 56% of issue ads, highlighted the sponsoring candidate's positive attributes. Research has shown that political videos employ distinct appeal types based on the theme of the ad. Image ads mainly used source credibility and ethical appeals, whereas issue ads more often relied on emotional than logical language that is usually equally conveyed by the candidate or an anonymous announcer (Johnston & Kaid, 2002).

Narratives and Political Advertising

Narratives have a long tradition throughout human history and have been consistently employed to convey persuasive messages and/or to change attitudes and beliefs. Narrative messages are often communicated in the forms of storytelling, testimonials, exemplars, and entertainment-education (Hinyard & Kreuter, 2007). According to Green and Brock (2005), narratives can be more influential than rhetorical messages for various reasons. The purpose of narratives is often to entertain, not to persuade. As a result, narratives are less likely to generate counter-arguing and reactance. Similarly, narratives oftentimes are more emotionally involving, and therefore their inherent messages are likely to be accepted (Green & Brock, 2005).

Previous research on narratives has identified transportation as an important mechanism underlying narrative impact. Green (2004) defined transportation as the "integrative melding of attention, imagery, and feelings, focused on story events" (p. 247). Contrary to the premises of dual-process persuasion models, such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986), which emphasizes the systematic evaluation of message arguments, narratives can mentally involve the readers and produce more intense affective reactions (Green & Brock, 2000). Prior studies have found that the vivid information contained in narratives is more memorable over time (Appel & Richter, 2007) in comparison to pallid information (Zillmann, Gibson, Sundar, & Perkins, 1996). This occurs because narratives often impart factual or plausible experiences of other individuals that are difficult to contest or discard (Shen, Ahern, & Baker, 2014). Hence, audiences lower their cognitive and affective vigilance as they do not perceive the advocated message as a persuasion attempt. In sum, narrative stories illustrate "a thematically and temporally related sequence" (Adaval & Wyer, 1998, p. 207) of events that involve characters enmeshed in unfolding situations that demand tackling pressing questions or unresolved issues. What distinguishes narratives from other messages is the emphasis they place on character(s) and event(s), which constitute necessary

elements for stories. Most of the literature has focused on the effectiveness of narratives in marketing (Escalas, 2004), advertising (Mattila, 2000), and health communication (Dillard & Main, 2013).

Despite the effectiveness of narratives, there is no systematic research on their use in political advertising. Yet, this is an important topic as spending on political advertising continues to increase (Center for Responsive Politics, 2014) and the use of message strategies will have enormous ramifications for political campaigns. Because prior research has not examined narratives in political advertising, the following research questions are proposed:

RQ₁: During the 2014 midterm campaigns, what types of narrative ads were used by political candidates?

RQ₂: What were the main foci of the narrative political ads?

RQ₃: What were the different narrative ads used by campaigns and candidates?

RQ₄: What were the tones, appeals, video styles and characters used in the narrative political ads by different candidates?

Method

Sample

To answer the above research questions, a content analysis was conducted to examine the narrative political ads that were shown or appeared online during the 2014 American gubernatorial and senatorial campaigns. Specifically, the sample consisted of all ads that were aired on television but also placed on the candidate's campaign Web site as well as ads that were produced for exclusive Internet use. Online ads that were created for the radio (audio only) and found on the candidate's Web site were excluded from the analysis. To obtain them, the Web sites of all candidates were scrutinized in order to glean all relevant ads pertaining to their campaigns. Second, a YouTube search was performed by using a combination of search terms such as the candidate's name, the state, the type of race and the election year. In all, the initial search yielded a total of 1,514 ads from the 2014 gubernatorial and senatorial elections, with 585 ads for senatorial races and 929 ads for the gubernatorial elections. Upon further examination of the search results, a total of 243 narrative ads were identified: 185 gubernatorial and 58 senatorial ads had appeared in the 36 state gubernatorial and 36 senatorial contests. All narrative ads used by the two major parties and those by independent candidates were selected for content analysis.

Past research has used themes as the unit of analysis because different topics (i.e., claims, attacks, defenses) can be simultaneously included within a political ad (Benoit & Airne, 2009). Considering that narratives are thematically coherent stories, this study adopted instead the video-style coding procedure employed by

Kaid and Johnston (1991, 2001) who used the individual spot as their unit of analysis. This approach allowed for the evaluation of all the relevant messages and production techniques used in the included political ads.

Video style has been extensively used in past studies to identify and deconstruct political campaigns in the United States as well as around the world (Kaid & Johnston, 2001). All narrative ads were analyzed according to the dominant tone, emphasis, and other verbal and nonverbal cues. Coders analyzed the spots in terms of the specific issues that were mentioned in the ads (e.g., economic concerns, crime/gun control, abortion, health care, taxes, education, etc.). By coding the video styles used in the ads, the type of the employed appeals (logical, emotional, or source credibility) as well as information relevant to the candidate's political position (incumbent, challenger, open race) were obtained. Finally, the ads were coded for the presence of nonverbal content such as whether the dominant speaker was the candidate or someone else (e.g., government official, family member).

Coding Procedures

A total of six trained coders completed the coding of all 243 ads. Following their training on identifying content categories and definitions, coders independently coded a sample of the ads. Then, a meeting was held to resolve disagreements in relation to the coding procedure. All the ads were divided and assigned to the six coders respectively. After they completed coding, one primary coder coded 10% of the ads that were previously coded by the six coders, in order to calculate inter-coder reliability. The average Krippendorff's alpha achieved was .94, which indicates very high inter-coder reliability.

Coders first identified the narrative formats of the ads, and categorized them as autobiographical, voter stories or testimonials. *Autobiographical* ads were operationalized as the candidates' personal account of their life stories by sharing information pertaining to upbringing, education, and professional experience. They are similar to the "Who I Am" and "Why I Am Here" stories (Simmons, 2006). *Voter stories* ads are full-blown narrative ads, featuring a coherent storyline about an issue consisted of protagonist(s) (e.g., usually, the voter), a plot (e.g., young parents who receive a minimum wage describe the challenges to raise their kids while struggling with student loan debts), and a resolution (e.g., how the advocated candidate, by increasing the state's minimum wage, can help voters in similar situations cope with such challenges). Finally, a *testimonial* ad is an abbreviated narrative ad, consisted of the mere presentation of evidence and characters without getting into the coherent storyline or plots that are typically present in long narratives. They are similar to anecdotes or exemplars that are distinct from voter stories ads (see Shen et al., 2015). These three types were identified as the main variations of the narratives used in political ads.

Ad type was coded as being either positive or negative depending on its overall tone. Positive promotional ads were defined as those favorably promoting the

candidate, whereas negative attack ads represented those ads that attacked the opposing candidate. The emphasis of the ad was coded as either focusing on the candidate's character or policy position on an issue. Finally, coders recorded information regarding the issues presented in the ads.

Results

To answer the research questions, the types of narrative ads that were employed by political candidates (RQ₁) and the main foci of these ads (RQ₂) were first examined. The content analysis revealed that a total of 243 political ads were identified as narrative political ads. Of these ads, 53 (21.8%) were autobiographical ads, 75 (30.9%) were voter stories ads, and 115 (47.3%) were testimonial ads (see Table 1). Among all analyzed ads, 134 (55.1%) were issue-focused, and 109 (44.9%) character ones. Specifically, among all the autobiographical ads, 29 (54.7%) were issue-based, and 24 (45.3%) were character-based; among all the voter stories ads, 40 (53.3%) focused on issues, and 35 (46.7%) focused on characters. Of all the testimonial ads, 64 (55.7%) emphasized issues, and 51 (44.3%) emphasized characters. It is thus clear that although there were more testimonial ads than either autobiographical or voter stories ads, all the ads focused almost equally on candidates' issue positions or characters.

RQ₃ focused on the different types of narrative ads and how frequently they have been employed by campaigns and candidates. The chi-square test revealed that candidates of different status tended to use different types of narrative ads, $\chi^2(4, N = 243) = 12.38, p < .05$, Cramer's $V = .16$. Incumbents and challengers used more testimonials (54.5% and 52.5%) and fewer autobiographical ads (15.6% and 15%), while candidates in open races used significantly more autobiographical ads (33.7%), and fewer testimonials (36%) than did incumbents and challengers (see Table 2).

Among all the ads by the senatorial candidates, 7 (12.1%) were autobiographical ads, 22 (37.9%) were voter stories, and 29 (50%) were testimonial ads. In terms of gubernatorial ads, 46 (24.9%) were autobiographical ads, 53 (28.6%) were voter stories, and 86 (46.5%) were testimonial ads (see Table 2).

The top five issues that were emphasized in all the narrative ads included the economy ($N = 52, 21.4\%$), education ($N = 22, 9.1\%$), health care ($N = 15, 6.2\%$), civil rights/special rights for special groups ($N = 14, 5.8\%$), and children's issues ($N = 9, 3.7\%$). The analysis showed that candidates from different parties did not differ in terms of their preference on specific issues.

Candidates from different political parties varied in terms of the type of narratives they used in their ads, $\chi^2(2, N = 239) = 6.29, p < .05$, Cramer's $V = .16$. Republican candidates used more autobiographical ads (28.3%) than Democratic candidates (15.1%). Four videos affiliated with either Independent or Libertarian candidate were removed from the analysis. This is because they violated the assumptions of the chi-square analysis, since most expected frequencies should be equal to or greater than five.

Table 1
Distribution of Ad Characteristics by Senatorial and Gubernatorial Candidates

	Senatorial races	Gubernatorial races	Total
Candidate status			
Incumbent	29 (37.7%)	48 (62.3%)	77
Challenger	16 (20%)	64 (80%)	80
Open	13 (15.1%)	73 (84.9%)	86
Party affiliation			
Democrat	30 (23.8%)	96 (76.2%)	126
Republican	28 (24.8%)	85 (75.2%)	113
Others	0 (0%)	4 (100%)	4
Gender			
Female	20 (37.7%)	33 (62.3%)	53
Male	38 (20%)	152 (80%)	190
Campaign outcome			
Win	32 (28.3%)	81 (71.7%)	113
Lose	26 (20%)	104 (80%)	130
Type of narrative ads			
Autobiographical	7 (13.2%)	46 (86.8%)	53
Voter stories	22 (29.3%)	53 (70.7%)	75
Testimonials	29 (25.2%)	86 (74.8%)	115
Tones			
Positive	49 (27.1%)	132 (72.9%)	181
Negative	9 (14.5%)	53 (85.5%)	62
Emphasis			
Issue	41 (30.6%)	93 (69.4%)	134
Character	17 (15.6%)	92 (84.4%)	109
Types of appeals			
Logical appeals	12 (16.4%)	61 (83.6%)	73
Emotional appeals	36 (37.5%)	60 (62.5%)	96
Source credibility	10 (13.5%)	64 (86.5%)	74
Dominant speaker			
Candidate	10 (16.1%)	52 (83.9%)	62
Anonymous announcer	4 (8.3%)	44 (91.7%)	48
Voter	38 (36.5%)	66 (63.5%)	104
Spouse or family member	5 (33.3%)	10 (66.7%)	15
Others	1 (7.1%)	13 (92.9%)	14

Note. Percentages in parentheses are within rows.

The analysis also demonstrated that the narrative types had a significant relationship with campaign outcome, $\chi^2 (2, N = 243) = 7.48, p < .05$, Cramer's $V = .18$. Specifically, candidates who won the election used more autobiographical ads (28.3%) than those who lost the campaign (16.2%). Furthermore,

Table 2
Narrative Type by Campaigns and Message Features

	Autobiographical	Voter stories	Testimonial
Campaign type			
Gubernatorial	46 (24.9%)	53 (28.6%)	86 (46.5%)
Senatorial	7 (12.1%)	22 (37.9%)	29 (50%)
Candidate status			
Incumbent	12 (15.6%)	23 (29.9%)	42 (54.5%)
Challenger	12 (15%)	26 (32.5%)	42 (52.5%)
Open	29 (33.7%)	26 (30.2%)	31 (36%)
Party affiliation			
Democrat	19 (15.1%)	43 (34.1%)	64 (50.8%)
Republican	32 (28.3%)	31 (27.4%)	50 (44.2%)
Gender			
Female	11 (20.8%)	22 (41.5%)	20 (37.7%)
Male	42 (22.1%)	53 (27.9%)	95 (50%)
Campaign outcome			
Win	32 (28.3%)	37 (32.7%)	44 (38.9%)
Lose	21 (16.2%)	38 (29.2%)	71 (54.6%)
Emphasis			
Issue	29 (21.8%)	40 (30.1%)	64 (48.1%)
Character	24 (21.8%)	35 (31.8%)	51 (46.4%)
Tone			
Positive	51 (28.2%)	63 (34.8%)	67 (37%)
Negative	2 (3.2%)	12 (19.4%)	48 (77.4%)
Types of appeals			
Logical appeals	10 (13.7%)	17 (23.3%)	46 (63%)
Emotional appeals	23 (24%)	30 (31.3%)	43 (44.8%)
Source credibility	20 (27%)	28 (37.8%)	26 (35.1%)
Video style			
Talking head	19 (27.9%)	23 (33.8%)	26 (38.2%)
Interview	0 (0%)	7 (63.6%)	4 (36.4%)
Photo montage/slideshow	8 (13.3%)	16 (26.7%)	36 (60%)
Live action/recreation	9 (30%)	6 (20%)	15 (50%)
Combination	17 (23%)	23 (31.1%)	34 (45.9%)

Note. Percentages in parentheses are within rows.

testimonials were more likely to be used by candidates who lost the campaign (54.6%) than those who won (38.9%).

Finally, to answer RQ₄, the tones, appeals, video styles, and characters used in the narrative political ads were analyzed with the goal to explore how these features differ by candidates, party affiliations and other factors. Results suggested that the tone of video was also significantly associated with the types of narrative used in the ads, $\chi^2 (2, N = 243) = 32.68, p < .001$, Cramer's V = .37. Specifically, 28.2% of

the positive ads were autobiographical, while only 3.2% of the attacking or negative ads employed this narrative type. Similarly, 34.8% of positive ads were voter stories, while only 19.4% of negative attacking ads were voter stories. However, 77.4% of ads that aimed to attack opponents contained testimonials, compared to a much smaller percentage of testimonials (37%) among ads promoting candidates.

The types of appeals used in ads also had a significant relationship with narrative types, $\chi^2(4, N = 243) = 12.11, p < .05$, Cramer's $V = .16$. More than half of the ads (63%) that used logical appeals were testimonial ads, while only 44.8% of ads that used emotional appeals and 35.1% of ads that used source credibility were testimonial ads. On the contrary, only 13.7% of ads that used logical appeals were autobiographical ads, while 27% of ads that used source credibility were autobiographical ads.

Video style was also significantly associated with narrative types, $\chi^2(8, N = 243) = 15.61, p < .05$, Cramer's $V = .18$. None of the ads that employed interviews were autobiographical ads, while 30% of the ads containing live action or reaction were autobiographical ads; most of the ads that contained interviews (63.6%) were voter stories; and most of the ads with a photo montage or slideshow (60%) were testimonial ads.

There was a significant difference in the emphasis of ads used by candidates with different status, $\chi^2(2, N = 243) = 11.47, p < .01$, Cramer's $V = .22$. Particularly, ads that focused on issues were more likely to be from incumbents (40.3%) than from challengers (26.1%) or candidates in open races (33.6%); while those ads emphasizing character were more likely to be made by challengers (41.3%) and candidates in open races (37.6%) than by incumbents (21.1%).

Additionally, the emphasis of narrative political ads differed significantly, depending on the type of the dominant speaker used in these ads, $\chi^2(4, N = 243) = 30.29, p < .001$, Cramer's $V = .35$. Specifically, when the dominant speaker was a voter, the ad was more likely to focus on issues (69.2%) than characters (30.8%). Conversely, if a candidate's spouse or other family members served as the dominant speaker, the spot was more likely to be on candidate character (86.7%) than issues (13.3%).

In terms of the tone of ads, the majority of the narrative ads ($N = 181, 74.5\%$) were positive in nature, and roughly one fourth of the ads were negative ads designed to attack opponents ($N = 62, 25.5\%$).

The relationship between the tones of the ads and candidate status or nature of the campaign (i.e., open-race or incumbent-challenger race) was also examined. The results showed a significant relationship between them, $\chi^2(2, N = 243) = 13.45, p < .001$, Cramer's $V = .24$. Generally, positive ads were primarily used in open races (40.9%), and were used less often by challengers (27.1%). Among the negative ads, half of them were used by challengers (50%), whereas their use was less frequent in open races (19.4%).

Moreover, a significant relationship between video tone and narrative type was detected, $\chi^2(3, N = 243) = 33.53, p < .001$, Cramer's $V = .37$. The proportion of voter stories (34.8%) and autobiographical (28.2%) ads among positive ads was

much larger than that among attacking ones (19.4% vs. 3.2%). In contrast, attacking ads were more likely to employ testimonials (77.4%) than positive ads (37%).

A significant relationship was also found between video tone and the dominant speaker in the analyzed spots, $\chi^2(4, N = 243) = 48.35, p < .001$, Cramer's $V = .45$. Specifically, positive ads were more likely to have voters (44.2%) or candidates themselves (30.9%) as the dominant speaker, while anonymous announcers (48.4%) or voters (38.7%) served more often as dominant speakers in attack ads.

Finally, the dominant speaker also had a significant relationship with the campaign's outcome, $\chi^2(4, N = 243) = 19.36, p < .001$, Cramer's $V = .28$. Ads that used an anonymous announcer as the dominant speaker were more likely to be employed by candidates who lost the election (77.1% vs. 22.9%), while ads that featured a candidate's spouse or other family members were more likely to be from winners (60% vs. 40%). In addition, the tone of the ad also had a significant relationship with the campaign outcome, $\chi^2(1, N = 243) = 27.68, p < .001$, Cramer's $V = .34$. Ads that focused on attacking a candidate were more likely to be used by candidates who lost the election (82.3% vs. 17.7%).

Discussion

The present study is among the first to examine the use of narratives in political advertisements for the 2014 U.S. midterm senatorial and gubernatorial elections. The results illustrated the burgeoning role of narratives in political campaigns, since roughly half of the spots analyzed in this study were either autobiographical spots or voter stories ads. The findings also suggested that narrative ads were overall positive and usually took the form of either autobiographical presentation or voter stories with the goal to promote the candidate, whereas testimonial ads were mainly used to attack opponents.

Consistent with previous scholarship on different types of political advertising (Benoit, 2004; Kaid & Johnston, 2001), our results support the notion that, regardless of the narrative types, issue-related ads were preferred to character-based ads in both senatorial and gubernatorial races. It is no surprise that ads featuring voters as primary speakers emphasized issues, whereas ads with a candidate's spouse or other family members serving as primary speakers focused on characters. It is possible that the inclusion of voters in issue ads was effective and increased viewers' identification because it is hard to discount the real experiences of a story whose protagonist was a voter (Oatley, 2002). Taken together, these results have important practical implications for using narrative political ads in campaigns. In employing narratives in political advertising, candidates can implicitly convey their views on pressing or controversial issues by having affected individuals describe how a certain policy has negatively influenced their lives. As such, voters, especially undecided ones, may be prone to accept the sponsoring candidate's stance on the issues.

The results also demonstrated that incumbents' ads emphasized issues while challengers and candidates in open races focused on characters. This finding

partially contradicts research examining the 2004 Congressional race which concluded that incumbents and challengers focused more on issues than characters, whereas open-seat candidates showed a marginal preference for characters (Benoit & Airne, 2009).

The findings are also consistent with prior research, which has shown that attack ads were more frequently employed by challengers than incumbents (Airne & Benoit, 2005; Benoit & Airne, 2009). Particularly, these results corroborated those by Airne and Benoit (2005) who found in their study on the 2000 campaign that attacks appeared in roughly one fourth of the ads. It could be that even in narrative ads, whose indirect persuasion effects stem from the fact that they communicate the protagonists' experiences and thus are difficult to discount them, candidates still avoided overusing them, potentially fearing a backlash from voters. The findings appear to support this notion as attack ads were predominantly employed by candidates who lost the election. This suggests that future candidates, especially incumbent ones, should be very cautious in using narrative attack ads as they could alienate voters.

Overall, the evidence suggested that candidates in open races were more likely to favor the use of autobiographical ads during their campaigns than testimonials. It was also found that autobiographical ads were more frequently adopted by winning congressional candidates, while testimonials were preferred by losers. A possible explanation may be that autobiographical ads mainly rely on the use of personal experiences, thus enhancing the realism of the distributed message by conveying the narrator's emotions. Prior research has found that when protagonists express their affective states, audiences are predisposed to vicariously experience the same feelings (Green, 2006; Oatley, 2002). This suggests that candidates can potentially benefit by strategically adopting autobiographical ads with the goal to develop an emotional connection with voters. Since autobiographical ads consist of a repertoire of the candidate's real-life struggles and/or successes, which cumulatively have shaped their persona and stance on policies, voters are more likely to perceive these candidates as genuine and identify with them.

This study also examined the types of appeals used in narrative ads. More specifically, we found that testimonial ads mainly used logical appeals, whereas emotional appeals and source credibility were less frequently employed. Conversely, logical appeals were less common in autobiographical ads, whereas source credibility was more evident. In short, the findings showed that candidates should be attentive to the type of the appeals used (logical, emotional, source credibility) in narrative ads as different appeals evoke different feelings or emotions (Kaid & Johnston, 1991). Emotional appeals are often associated with feelings such as anger or happiness, while logical appeals tend to promote the use of evidence (e.g., statistics, examples). In a content analysis of 1,213 U.S. presidential ads from 1952 to 2000, Johnston and Kaid (2002) found that issue ads displayed emotional appeals, while, on the contrary, source credibility and ethical appeals mostly appeared in character ads. More formative research is needed to find out what

type of appeals is more effective per narrative type (autobiographical or voter stories), tone (positive or negative), as well as ad emphasis (issue vs. character).

Nonverbal elements are also influential in both issue and character ads and can have important implications since they contain implicit cues for voters when processing the ads. Specifically, the current results showed a significant relationship between the type of narrative ad and the nonverbal elements in the ad. Research on the use of video styles in presidential campaigns from 1952 to 1996 has suggested that anonymous announcers were the primary speakers in negative ads (Kaid & Johnston, 2001). The results indicated that indeed anonymous announcers were used in negative attack ads; however, it was found that voters were also used as main speakers in attack ads. The evidence suggested that featuring a real voter as the protagonist in a narrative ad can enhance the storyline's plausibility and believability since it is difficult to counter-argue against an individual's personal experiences. These results are conceptually consistent with research in health communication (De Wit, Das, & Vet, 2008) wherein the inclusion of affected individuals as narrators of health issues increased the story's perceived realism and led to message recipients' behavior change and attitude modification. Considered in conjunction with the earlier findings regarding negative ads, which were primarily employed by losing candidates, this raises the possibility that using voters in negative narrative ads can make them more believable but also can mitigate any potential backlash.

Past research found that the primary speaker in positive ads was the candidate almost half of the time (Kaid & Johnston, 2001). The results provided partial support for this claim as it was found that only candidates in gubernatorial races more frequently employed autobiographical narratives to connect with voters by emphasizing personal details about their past. It should be noted, however, and in comparison to the findings as reported above by Kaid and Johnston (2001), that the candidate was the primary speaker in the ads (30.9%). This occurred because voters also appeared in positive ads (44.2%) in an attempt to increase the plausibility and veracity of the presented arguments. In support of prior research, this study's findings confirmed that anonymous announcers were mainly featured in ads from candidates who lost the election (Kaid & Johnston, 2001). Hence, using candidates or real voters in narrative ads might render these ads more persuasive. Particularly, the inclusion of real voters as primary speakers can allow viewers to identify and empathize with the message and affected individuals. For example, a study on political endorsements and their impact on independent voters found that the use of citizens produced more positive attitudes about the recommended party and increased the likelihood to vote for that party (Chou, 2014). Hence, it can be argued that because of the potential similarities in personal attributes common citizen endorsers and voters share, voter stories ads can be influential during decision making.

Finally, nonverbal elements in the examined narrative ads also offer some interesting evidence in relation to the electoral outcome. This study contributes to the literature on political advertising by demonstrating that family members were used as primary speakers in ads by candidates who won the election. In sum, these results suggested that emphasizing the human component in ads could make them more

attractive to voters and predispose them to identify or sympathize with the candidate. It is possible that the combination of autobiographical ads featuring the sponsoring candidate, personal stories of affected voters, and the use of family members can be an influential form of political advertising.

Conclusion and Limitations

The purpose of this study was to identify to what extent and how narratives have been used in political advertisements during the 2014 gubernatorial and senatorial elections. The use of narratives in political advertising and campaigns has been increasing. In light of their unique attributes and effectiveness in persuasion, exploring narratives in political advertisements merits further systematic research. This study thus extends prior research by finding that political parties have used different types of narratives in political advertising, with Republicans showing a preference for autobiographical ads. Additionally, the results also revealed that variations also exist regarding the nonverbal cues employed by the winners and losers of the election. The findings have practical implications for both political candidates and political campaigns. Specifically, they provided support that winners were more likely to use autobiographical narratives and include spouses or themselves as primary speakers in the ads. Conversely, the employment of anonymous announcers and the use of testimonials was often adopted by candidates who lost the election. Finally, the inclusion of actual voters in narrative ads may have helped in improving the favorability toward the candidate as audiences are more likely to empathize with individuals who convey their real-life experiences.

The growing use of narratives in political advertising as found in this study suggests the need for scholars to assess such ads' impact on voters. In the past, researchers have primarily examined the effects of tones (e.g., negative vs. positive ads), ad sponsorship, and other features (see Lau et al., 1999). Future studies should therefore examine the impact of narrative-based political ads, particularly the psychological processes underlying their emotional and cognitive effects.

Although this research produced some interesting findings, there are several limitations that need to be addressed. First and foremost, this is a content-analysis without actually testing the effects of political narratives. As such, the findings are descriptive in nature, and any inferences are merely conjectures. To identify the impact of narrative political ads, future research should use experimental or survey-based approaches to explore the relationship between message features and political attitudes and also other outcomes (see Shen & Wu, 2002). Second, the sample of ads is limited and small. Although a thorough online search was conducted to identify and collect all ads produced during the examined period, it is possible that some ads might have been inadvertently left out of our sample. The sample is also limited to the narrative ads produced in a single election year. Future studies should extend this line of research by increasing the sample size and including campaigns from different election years.

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