#ISOJ

The official research journal of the INTERNATIONAL SYMPOSIUM ON ONLINE JOURNALISM

Volume 6, Number 1, Spring 2016

# Table of Content

***#ISOJ Volume 6, Number 1, Spring 2016***

# Journal Details

*Co-Editors-in-Chief:*

Rosental Calmon Alves

Amy Schmitz Weiss

## About Us

#ISOJ The Journal of the International Symposium on Online Journalism is an international journal devoted to advancing the scholarship in the area of journalism and innovative technologies. The editors invite manuscripts reporting original research, methodologies relevant to the study of journalism and innovative technologies (online, tablets, mobile platforms, etc.), critical syntheses of research and theoretical perspectives on journalism today. The journal maintains a social scientific and broad behavioral focus. We encourage submissions from scholars outside and within the journalism and mass communication discipline.

## Disclaimer

The editors cannot be held responsible for any errors or consequences that arise from the use of information contained in the #ISOJ Journal. The views and opinions in the journal do not reflect those of the publisher or editors.

## Copyright and photocopying

All rights reserved. No part of this publication may be reproduced, transmitted or stored in any form or any way without the prior permission in writing from the copyright holder. Authorization to photocopy items for internal and personal use is granted by the copyright holder of the libraries and other users registered with their local Reproduction Rights Organization and/or Copyright Clearance Center and provide the appropriate feed paid directly to the RRO.

# Editors' Note

Welcome to the sixth volume of the #ISOJ, The official research journal of the International Symposium on Online Journalism.

This sixth volume features eight articles from the research papers that were peer-reviewed and selected for presentation at the April 2016 symposium. We are happy to include these articles in this journal as they represent papers that received the highest judging marks among all the other papers in the research competition this year.

This issue focuses on digital security concerns for journalists, the impact of social media in journalism, the potential for virtual reality in immersive storytelling, the evolution of digital native news organizations, and the economics of accountability journalism.

The journal aims to demonstrate the quality and uniqueness of the research that is being conducted today in online journalism from scholars around the world. Our aim is that this journal can serve as a living archive that records the trends and challenges in online journalism today and document the research work of the International Symposium on Online Journalism symposia.

Cheers,

Amy Schmitz Weiss and Rosental Calmon Alves

*Co-editors*

# Journalism: How One University Used Virtual Worlds to Tell True Stories

*Leonard Witt, Farooq A. Kperogi, Gwenette Writer Sinclair, Claire Bohrer and Solomon Negash*

*This case study demonstrates a relatively low-cost, quick-startup project that advances work in virtual world immersive journalism; in this case, to amplify the voices of often marginalized youth in the juvenile and criminal justice systems. Using ethnographic and survey research, it provides insights into producing "machinimas" (videos filmed in virtual worlds) to tell journalistic stories using virtual world tools, props, scenery and avatars, and provides a prototype for college-level journalism, communication and media studies programs considering initiating their own immersive journalism and virtual reality journeys.*

## Introduction

This paper developed from a grant-funded, university-based project that emulated, at least in part, the work of Nonny de la Peña. The research team uses her definition of immersive journalism as a touchstone: "[The] production of news in a form in which people can gain first-person experiences of the events or situations described in news stories" (de la Peña, et al., 2010, p. 291). Our research uses a combination of ethnographic and survey research methods. It is written from the perspectives of the project leaders: a journalism professor who was the Principal Investigator, a virtual world development expert who oversaw the creation of the virtual world and machinimas, one of the 11 student interns, an app developer and an online journalism researcher. The professor, the virtual world expert, and the intern have borrowed from the autoethnography qualitative research toolkit in writing their individual sections. The approach "acknowledges and accommodates subjectivity, emotionality, and the researcher's influence on research…" (Ellis, 2011, Section 1, para 3). The paper aims to inform journalism, communication and media studies programs in deciding if they should be offering immersive journalism courses or developing immersive journalism curriculum and virtual reality labs or centers.

## Virtual Worlds and Immersive Journalism — An Overview

The temporal co-occurrence of immersion and interactivity is the essence of virtual reality. As Burdea and Coiffet (2003) point out, virtual reality is neither exclusively telepresence nor augmented reality nor, for that matter, any particular hardware. It is “a simulation in which computer graphics are used to create a realistic-looking world [where] the synthetic world is not static, but responds to the user’s input (gesture, verbal command, etc.). This defines a key feature of virtual reality, which is real-time interactivity. Here real time means the computer is able to detect an input and modify the virtual world instantaneously” (p. 2, emphasis original). Immersive journalism enables participants to have an embodied experience of actually entering “a virtually re-created scenario representing the news story… typically represented in the form of a digital avatar, an animated 3D digital representation of the participant, and see the world from the first-person perspective of that avatar” (de la Peña, et al., 2010, p. 292).

As Raney Aronson-Rath, James Milward, Taylor Owen and Fergus Pitt (2016) point out, immersive journalism draws extensively from social presence theory, which argued that, in spite of popular notions to the contrary, interlocutors in mediated online discourses can project social cues that inspire social presence in their dialogic enterprise (Short, Williams, & Christie, 1976). Short, Williams and Christie (1976) showed that social presence theory has two interconnected parts: intimacy and immediacy. Immersive journalism expands on these notions. The possibilities of what some scholars have called avatar anthropomorphism (Lugrin, Latt, & Latoschick, 2015) and the illusions of place, plausibility, and body ownership that are possible in virtual reality provide the basis for and growing popularity of immersive journalism.

Virtual reality journalism first materialized about the mid-2000s, practiced primarily in Second Life, a user-created, 3D virtual world. It featured weekly news shows like Metanomics with host Robert Bloomfield, professor of accounting at Cornell University (Figure 1). Metanomics was an audience-interactive interview show premiering in 2006, coterminous with a spike in Second Life’s popularity after sustained traditional and digital media coverage of its activities (Totila, 2007). Metanomics was described as “the seminal form of what journalism will look like in the 21st century” (Cruz & Fernandes, 2011, p. 6).

**Figure 1**. Metanomics news show. Weekly virtual world news show with host, Robert Bloomfield. Retrieved from https://www.youtube.com/watch?v=2BzQwVy1yCc (Academic Fair Use).

Previous experiments in virtual reality journalism and virtual world storytelling did not involve the participant in as much perceptual and corporeal investment as immersive journalism does, a reason de la Peña and her colleagues distinguished between "interactive journalism or low-level immersive journalism" and "deep immersive journalism" (de la Peña, 2010, p. 299). Deep immersive journalism invites greater, deeper, and more extensive spatial, temporal, and corporeal involvement in the reliving of re-created news events in the virtual world. This notion of immersion is consistent with Biocca and Delaney's (1995) definition of virtual reality immersion as the "degree to which a virtual environment submerges the perceptual system of the user in computer-generated stimuli. The more the system captivates the sense and blocks out stimuli from the physical world, the more the system is considered immersive" (p. 57). This is made possible by a concatenation of three interrelated illusory sensations—the illusions of place, plausibility, and body ownership—that predispose participants to feel that they are in a real place, reliving real stories, with real bodies, which can activate a sensation known as response-as-if-real, also called RAIR (de la Peña, et al., 2010). If the medium was the message in traditional journalism, the audience is the message in the emergent immersive journalism model since it is "defined by the relation between journalism and its audience, rather than on its relation to the medium it uses for communicating with the audience" (Latar & Nordfors, 2009, p. 23).

Avatar-driven virtual worlds already have a massive audience base; Second Life maintains an audience of 900,000 active users monthly (Weinberger, 2015). Piper Jaffray Investment Research predicts that "virtual reality and augmented reality are the next mega tech themes through 2030. We liken the state of virtual and augmented reality today as similar to the state of mobile phones 15 years ago" (Munster, Jakel, Clinton, & Murphy, 2015, p. 1).

A keyword in virtual worlds and VR is empathy. Chris Milk (2015), founder and CEO of virtual reality company Vrse, calls virtual reality "the ultimate empathy machine" (2:28) that "connects humans to other humans in a profound way ... we become more compassionate, we become more empathetic, and we become more connected and ultimately we become more human" (9:57).

At the 2012 Sundance Film Festival, watching de la Peña's immersive journalism piece, *Hunger in Los Angeles*, the audience virtually stood in a food line where a man suddenly falls to seizures on the ground in front of them. "Audience members tr[ied] to touch non-existent characters and many cried at the conclusion of the piece" (Immersive Journalism, 2012, para. 3). Increasingly, traditional news organizations like the *Des Moines Register*, *USA Today*, *The New York Times*, *The Wall Street Journal*, ABC, CNN, The Associated Press, and Vice have started immersive journalistic complements to their regular news stories (Brustein, 2014; Manly, 2015).

However, although immersive journalism in the virtual world has been on a steady rise in the past decade, there has been little scholarly interrogation of its singularities, potential, and challenges to journalism practice (Brennen & Cerna, 2010; Ludlow & Wallace, 2007). The preponderance of disciplinary conversations on virtual reality journalism has been focused on contrasting traditional media and inworld journalistic coverage of issues. Not much attention has been paid to the structural changes that immersive journalism can bring to news practices—or the ways in which it might complement, enrich, or even salvage traditional journalism.

## Youth Justice Storytelling

This study is based on a collaborative endeavor in which the students and professors working on the virtual world project interacted with professional journalists at the Juvenile Justice Information Exchange (JJIE.org), a nonprofit news organization located at the Center for Sustainable Journalism at Kennesaw State University. The JJIE.org specializes in covering youth justice issues; yet, even in that niche news organization, youth voices are rarely heard.

One barrier in getting youth voices heard is protecting their anonymity. However, that cloak of anonymity can be used to protect unjust systems as much to protect the children themselves. Melissa Sickmund, from National Center for Juvenile Justice, said in 2009: "If the public really knew, they would be appalled, not at the behavior of the kids, but at the behavior of the system" (Cullinan, 2009, para. 22).

Initially, the project planned to use avatars in lieu of the actual names and faces of the youth. Life-like avatars could be effective to protect the youths' privacy, while also being effective at expressing emotions (Mosera et al., 2007) and conveying those emotions across cultures (Koda & Ruttkay, n.d.). The project's initial virtual world immersive journalism goal was to have youth tell their individual stories by walking and talking audiences through their experiences of being in detention, of being arrested, of being homeless, and of being lost in the system (Online News Association, 2015).

However, the project leaders changed that strategy, using three different approaches that still guaranteed anonymity for the juveniles. For one machinima's soundtrack, student actors read actual records from a juvenile's life and court case, in another a voice-over professional read a juvenile's poem; and for a third a youth advocate provided the narration for his own childhood story. In future projects the team hopes to have juvenile offenders as avatars telling their real life stories in virtual worlds. All these techniques provide experimental avenues to provide youth the anonymity they deserve, while amplifying their voices.

There are thousands of marginalized youth voices that could be heard. In 2010, 70,000 youth were detained in the U.S. juvenile justice system (Suitts, Dunn, & Sabree, 2014, p. 7). Our project's online and mobile virtual world experience can inform various groups, including youth themselves and their parents, about the workings of the juvenile justice system. This knowledge could initiate parental involvement. That's important because, according to Burke, Mulvey, Schubert and Garbin (2014), "[t]he active involvement of parents—whether as recipients, extenders, or managers of services—during their youth's experience with the juvenile justice system is widely assumed to be crucial" (p. 1).

Virtual prison tours created by incarcerated juveniles where they recount their experience of institutionalization, sentences, challenges, programming, and fears upon release were found to increase awareness among youth who watched the videos and benefited them educationally (Miner-Romanoff, 2014). In the virtual prison tour study at a Midwestern university, 43 undergraduates in a Criminal Justice Program watched videos of juvenile prisoners' actual accounts and were then surveyed to determine the videos' effects. According to the student survey responses, the educational benefits of the virtual prison tours included a change in attitude, understanding and perception of the criminal justice system. When asked if the videos helped them to connect theory to practice, 60% of students said it did, and 71% of students said the videos helped them to better understand juvenile corrections. Additional survey data indicated that hearing the juvenile offenders' personal stories increased student empathy for incarcerated juveniles. Students changed their belief about the efficacy of rehabilitation, counseling, anger management, skills and job training. Of the 43 students surveyed, 71% said the video provided insights into authentic criminal justice experiences and changed their perceptions regarding punishment and rehabilitation. Sixty-three percent of students said the video increased their support for alternatives to incarceration, and 72% said the video increased their support for mental health treatment and education. Furthermore, the videos engaged students. Compared to staged, scripted, sterilized encounters often common in prison tours, the authentic and free flow of the offenders' actual accounts contributed to students' deeper understanding of institutionalization.

The project leaders in this project hope their virtual world machinimas, which re-create real-life situations, will also provide positive educational, attitudinal changing experiences. There is a precedent for this. At the Sundance 2016 Film Festival *The Guardian* premiered *6x9: An Immersive Experience of Solitary Confinement* (Sundance, 2015) (Figure 2). This immersive experience is relevant to what we are doing because up to 100,000 prisoners, including juveniles, are held in solitary confinement in the United States at any given time (Eilperin, 2016).

**Figure 2.** 6x9: An Immersive Experience of Solitary Confinement. A bird's eye view of solitary cell from the animated VR experience at Sundance Film Festival 2016. Photograph, The Guardian. Retrieved from http://www.sundance.org/projects/6x9-an-mmersiveexperience-of-solitary-confinement (Academic Fair Use).

One of the project's machinima is being incorporated into an interactive mobile-based app to alert youth to the consequences of juvenile offenses and to deter juveniles from getting involved in crime in the first place. The app design includes a link to Georgia's state law SB440 that defines when youth will be tried as adults (Campaign for Youth Justice, n.d.). Survey questions to capture audience input about the juvenile's story appear within the machinima, as do survey results for each question. The virtual world machinima interactive mobile app integrates user interface design principles from studies by Shields (2015) and Simpson (2015). This project demonstrates how one niche area of immersive journalism, sharing juvenile justice stories in virtual world machinima and mobile apps can be accomplished.

### The Metaverse of Virtual Reality — And This Project's Place in that Metaverse

Virtual reality is often equated with 3D headsets like Oculus Rift and 360-degree videos, but as Burdea and Coiffet (2003) remind us, and as we show in greater detail in the next section of this paper, virtual reality transcends hardware, augmented reality or telepresence. It encapsulates the Metaverse's continuum of virtual experiences, including the 2D Internet. For our purposes here we will be discussing 3D worlds. Within the Metaverse are different types of 3D virtual reality experiences for avatar-embodied users in virtual worlds, and we use the analogy of galaxies and planets to explain them.

The largest galaxy, with thousands of planets, is the Game Galaxy. Game worlds do not allow avatars free will outside the constraints of the game and participants' avatar identity must be chosen from characters with appearances and roles designed by the game developer. The world itself is fixed and only game developers can make changes or additions to the game world. Many game worlds are single player with the avatar competing against the computer. Others are multi-player where hundreds of players can be online competing simultaneously as individual avatars or in teams of avatars. One of the most popular multi-player game worlds is World of Warcraft (WoW) (http://us.blizzard.com/en-us/games/wow/) (Figure 3).

**Figure 3.** World of Warcraft. World of Warcraft: Auchindoun Dungeon. Retrieved from WoW presskit http://blizzard.gamespress.com/World-of-Warcraft (Academic Fair Use).

The much smaller Meeting Spaces Galaxy, another part of Virtual Reality Metaverse, is home to many businesses, from small partnerships to large international corporations. These worlds usually reproduce business meeting spaces such as boardrooms or conference centers and offer secure communications. Avatar customization is usually extremely limited, with world customization restricted to adding logos and information displays. Often the world’s virtual services are cloud-based and provide 3D environments suitable for training, collaboration or sales, such as AvayaLive Engage (https://engage.avayalive.com/engage/) (Figure 4).


**Figure 4.** AvayaLive Engage. Web Collaboration and Virtual Conferencing Tool/AvayaLive Engage conference room. Avatars attending presentation meeting. Retrieved from https://www.youtube.com/watch?v=pP_ZVLQflpA

The Virtual World Galaxy is the home of social worlds, where the focus is on developing personal and professional relationships. These worlds have visual design themes and include games that are not necessarily required or competitive, allowing participants to acquire objects for the home, clothing and other digital assets. The range of avatars and avatar homes is limited, with customizing restricted to options provided by the game developer. A popular example of a social world is The Sims (https://www.thesims.com/) (Figure 5). The Sims is a life simulation single or multi-player game offering opportunities to develop family, social and business relationships while building your home and community in suburban and urban settings.


**Figure 5.** The Sims. A popular example of a social world. Retrieved from Electronic Arts Press Room http://info.ea.com/products/p1509/simcity-buildit and http://info.ea.com/products/p1504/the-sims-4-get-to-work (Academic Fair Use).

Inside the Virtual World Galaxy are User-Created Virtual Worlds. Each of these worlds are unique, with land masses and content shaped and created by their users. Contained in the world’s software are easy-to-use 3D building tools for creating objects inworld and for importing objects, animations, sounds, textures, and other digital assets into the world. The Second Life Virtual World (www.secondlife.com) is considered to be the first user-created virtual world, with content creation including personal homes, businesses and even universities (Hodge, Collins, & Giordan, 2011) Users have complete creative freedom and many have developed business meeting worlds and game worlds within their user-created worlds. (Figure 6).

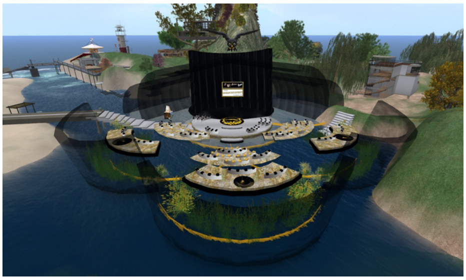


**Figure 6.** Kennesaw State University. Conference center in Second Life virtual campus, 2009. Photo by Gwenette Writer Sinclair.

And here is where the reader will find this project's user-created virtual world. Only a few types of virtual world server software (game engines) support developing user-created worlds. This project employs the open source OpenSimulator server platform (Figure 7). The rationale for our platform choice is discussed in the following section.

**Figure 7.** The Kid, The Cop, The Punch scenario, built by project interns. OpenSim user-created virtual world scenario for project's first machinima, Chicago circa 1999 based on photos and Google Earth. Photo by Gwenette Writer Sinclair.

This software's framework allows the public to connect their computers to project servers and experience our virtual world. Users create avatars on the project's website and choose from a variety of user world viewer software available to connect to the server and enter the virtual world. Once inworld, they can explore our machinima's 3D scenarios and interact with the story avatars. Future development could enable users to actually play one of the characters, following the scripted action path or choosing alternative paths at key decision points. User world viewer software programs are available for many platforms, including computers, computers with 3D headsets (i.e. CtrlAltStudio for Oculus http://ctrlaltstudio.com/viewer) and mobile devices.

## An Optimum Virtual World Toolkit

Of the many virtual world server platforms available, this project uses the OpenSimulator platform for both inworld digital asset content development and grid management for several reasons. The OpenSimulator platform is open source software and available at no cost for installation on a newsroom's or university's own servers. Newsrooms without IT staff can lease server space from OpenSim hosting providers. Hosts manage all the software installation and maintenance at affordable prices starting at $10 per month. Regions and all their content can be saved to a local hard drive as a single OAR (OpenSimulator Archive) file. OAR files can be uploaded to an empty virtual world region, where within minutes a fully developed region appears which can be easily customized for story development and machinima production (Figure 8 and 9).

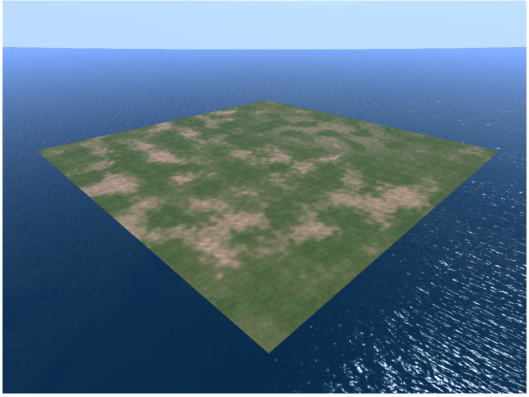


**Figure 8.** Empty OpenSim region (16 acres). Within minutes a fully developed region scenario can be uploaded, then customized for story development and machinima production. Photo by Gwenette Writer Sinclair.

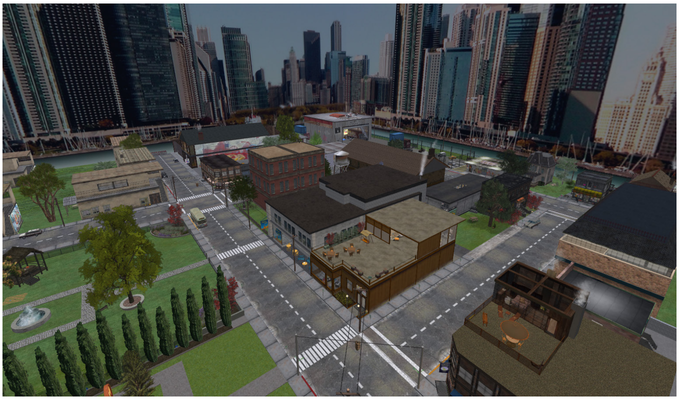


**Figure 9.** OAR file of Chicago scenario (16 acres). OAR upload from hard drive to OpenSim region is simple 3-step process. Photo by Gwenette Writer Sinclair

These complete OAR files can function as learning tools for groups new to virtual worlds and inworld machinima production. OAR files also greatly simplify shooting segments of ongoing serialized feature stories. One region can easily be used to support numerous scenarios and do fast video retakes by changing out the OAR files as needed.

Digital objects and customized avatars can be created inworld at no cost using simple 3D modeling tools in the OpenSim virtual world viewers. Students and new users benefit from building inworld, concurrently developing inworld avatar skills—movement, camera use, inventory management, communication tools, and documentation techniques. Object development inworld also allows for on-the-fly collaborative design changes and future inworld modifications of assets and re-combination of assets into different scenarios. The inworld weather environment is also easily customized for visual and aural realism. During the actual video capturing of inworld action, the world viewer controls offer complete control of the scenario lighting and camera capture of inworld action from any angle or distance.

Numerous online depositories offer thousands of free Creative Commons licensed digital assets including complete region OAR files, 3D objects, animations, gestures, textures, sounds, scripts for user interactivity, and avatar shapes, skins and wardrobes. These free resources are easily uploaded to the virtual world, allowing inexperienced builders and projects on tight deadlines to quickly assemble a world customized for their project needs at no cost. This greatly reduces the timeframe for asset and machinima production. The development timeline for any size scenario using OpenSimulator inworld build and asset import tools is significantly shorter than when using traditional 3D modeling tools required by other virtual world platforms.

OpenSimulator offers a sensory-rich environment that enhances machinima scenarios and user immersion. While in the 3D virtual scenarios, users can experience streaming music, streaming video and live interactive websites on media screens. Communication tools are robust and include typed and voice for public, group and private chats. The world viewers also offer lighting and sound adjustments allowing individuals to personalize their experience. An important aspect of this customization is the inclusion of a broader user population. Combined with built-in tools like text-to-speech, camera zoom presets and world viewer interface scalability, the population of users with impaired vision, hearing or voice are offered greater access to participate more fully in an OpenSim virtual world. For example, research in this area has shown that interaction between avatars offers non-speaking people new opportunities to converse (Alm et al., 1998).

Two additional intangible, but critically important factors determined the selection of the OpenSimulator platform for this project. One is the support available from professional groups and user forums. OpenSimulator has a strong community of hosting providers, virtual world grid owners, inworld digital asset developers and resident users. Most importantly, the fact that OpenSimulator is the only open source platform that offers allows complete expression of a user's free will to decide what to develop and which relationships and activities to pursue.

Although other asset development programs and virtual world server platforms/game engines can be used to develop scenarios for machinima production (e.g. Blender, Cry Engine, Delta 3D, Unity), several factors make these options less desirable for a curriculum or internships introducing journalists to the virtual world platform as a storytelling medium. These game engines do not include built-in 3D modeling tools, except for a few with very limited abilities. The financial investment for 3D modeling programs can quickly exceed $10,000. Complex licensing and cost structures for game engines—based on multiple variables including branding, public distribution via different media, commercial use (ie. as part of a newspaper subscribers' content)—also make it difficult to estimate project costs.

Also, traditional 3D modeling software requires expert level software skills to develop digital assets and assemble scenarios. Game development platforms, which will hold the 3D content, require computer coding skills or the ability to compile scripts from code libraries for scripting avatar-to-avatar and avatar-to-object interactivity.

The most critical negative factor in most game engine platforms is the lack of free will for users inworld. Activities and interactions are limited by what has been coded into the game engine. For this project, using avatars who had no behavior restrictions in an OpenSim developed environment provided a flexible, creative and effective medium for the real journalism stories we wanted to tell.

## Methods

Three of this paper's authors were active participants in the project, two from its conception in early 2015 and one who joined the project as a student in the fall of 2015. Each had their own separate perspective: One as a professor of journalism, one as a specialist in virtual world development and the third as a student.

Autoethnography is a well cited approach to blend scholarship with personal experience especially as it relates to the scholarship of teaching and learning (Lantz, 2012; Starr, 2010; Taylor & Coia, 2009). We knew our audience would be primarily from journalism-related university programs interested in virtual worlds and virtual reality. So our research answers: "The questions most important to autoethnographers … who reads our work, how are they affected by it, and how does it keep a conversation going?" (Ellis, Section 5, para 5).

Given our three perspectives, collaborative autoethnography was the best fit. Ngunjiri, Hernandez and Chang explain how interaction produces a:

> "richer perspective than that emanating from a solo researcher autoethnography. One researcher's story stirred another researcher's memory; one's probing question unsettled another's assumptions; one's action demanded another's reaction. All collaborative autoethnographers as participant-researchers not only made decisions about their research process, but also kept themselves accountable to each other" (2010, Section 4, para 1).

In addition to our own personal experience narratives, students participating in the project were surveyed to ensure the perspective was not ours alone. We also chose a case study approach encouraged by Yin (2003) "when the focus is on a contemporary phenomenon within some real-life context" and when a "how" question is posed in a situation over which the investigators have "little control over events" (p. 1). Our research goal was to explain "how" our project unfolded and changed over the course of a semester in a "real-life" teaching and learning environment.

## Results

### The Project from the Journalism Professor's Point of View:

The JJIE.org has experimented with alternative forms of journalism in the past, such as comic journalism (Cartoon Movement, 2012) to tell the story of a college student who was almost deported after a routine traffic stop. In early 2015, it was looking for alternative approaches to tell the stories of youth caught in the juvenile justice system. A professor suggested using avatars, which could preserve anonymity for youth whose stories we told. I remembered years earlier, a virtual world developer had created Kennesaw State University's campus on Second Life (2008) (Figure 10).

**Figure 10.** Kennesaw State University virtual campus, Second Life 2009. Four region development (64 acres). Photo by Gwenette Writer Sinclair.

We found her in Orlando, Florida, working with the U.S. Army Simulation Technology Training Center. She was eminently qualified to teach student interns everything about building scenarios and producing machinima in virtual worlds. I knew about journalism, so it was a nice fit. If we count the original grant writing, we have worked together for almost a year, yet we have never met face to face. All her mentoring of our interns has been done via phone conferencing, Skype or inworld (virtual world) meetings. She also took all the interns inworld for fully immersive experiences completing interactive assignments designed to teach both immersive journalism and virtual world avatar skills (Figure 11).

**Figure 11.** Interns watch inworld skills demonstration. Photo by Leonard Witt.

Our mentoring team included the virtual world developer, an app development professor and me, a journalism professor. Advisors included the JJIE.org's editor providing investigative journalism advice, JJIE.org's professional videographer providing video editing advice, and its website developer assisting with our project website (virtualworld.jjie.org) and with audio editing. Immersive journalism in virtual worlds works best as a team endeavor. Since it is still a nascent field, it is unlikely many professors would have all the experience and skill sets needed to teach the journalism, virtual world and machinima aspects of the project.

For instance, just producing our machinima mini-documentaries filmed in our virtual worlds, required many of the same skills needed in making real-world documentaries, including storyboarding, scripting, blocking, camera point of view, lighting and sound.

A look at who is co-authoring immersive journalism leader de la Peña's research papers provides a glimpse into the depth of thought and disciplines that immersive journalism requires. Her seminal paper (de la Peña, 2010), written with her co-authors, represents skill sets like journalism and interactive media, but also the human sciences. One co-author is based at the Advanced Virtuality Lab which studies "virtuality on the technological, scientific, societal and cultural levels" (http://portal.idc.ac.il/en/main/

research/pages/virtuality_lab.aspx) and another from EVENTLab, which researches "how people interact within immersive virtual environments and to identify the underlying brain mechanisms" (http://vulcan.ub.es/eventlab/). Who knew that the words "avatars," "journalism," and "brain science" could legitimately be mentioned in one sentence?

On many university campuses, including Kennesaw State, there are many obstacles to interdisciplinary work, so the project team was comprised of grant-funded internships versus developing a scheduled class. Still, it behooves colleges and universities to consider interdisciplinary relationships in setting up a virtual world/virtual reality training program because, as Slater (2014, para 1) points out "… not only does VR 'really work' but … it has become a commonplace tool in many areas of science, technology, psychological therapy, medical rehabilitation, marketing, and industry, and is surely about to become commonplace in the home."

On the project's team, the following degree majors were represented by the interns: two computer science, one new media arts, two public relations, one media studies, two honors college (one English, one African and African Diaspora Studies) and three journalism.

The project team produced three machinima. The first, The Kid, The Cop, The Punch used the video soundtrack from a panel discussion I captured months before this project was conceived. Youth justice advocate Xavier McElrath-Bey told his story of a Chicago police officer chasing and punching him when he was only 12 years old. Project interns used Xavier's voice from the soundtrack as the sole narration for the machinima. The Chicago-based inworld scenes, the avatar characters and the actions are all acted out as Xavier's taped voice tells the story. The Kid, The Cop, The Punch would fall in the media category of The New York Times' video Op-Docs (2016), which is a "forum for short, opinionated documentaries, produced with wide creative latitude and a range of artistic styles, covering current affairs, contemporary life and historical subjects."

The third machinima, Forgive, also fits into the Op-Docs category. The Beat Within, which publishes writing and art from incarcerated youth, provided a moving autobiographical poem written by a teenage ward of the court in Los Angeles' Central Juvenile Hall. She wanted to remain completely anonymous, so a member of Kennesaw University's spoken word club read the poem. Forgive is currently under production as an impressionistic inworld machinima.

To produce the second machinima, Christopher: A Child Abandoned, Deprived & Imprisoned the project took an unexpected turn. Originally, the project interns sought youth in the system to tell their verifiable personal experiences. Using avatars would allow their voices to be heard and they would be active participants in the storytelling process. The virtual world would provide the cover needed to protect their anonymity, privacy and safety. At the same time, viewers could experience empathy (Milk, 2015) in ways virtual worlds make possible. However, when team members approached a lawyer for story leads, he instead handed them thousands of pages of documents chronicling every aspect of Christopher Thomas's life starting at age two. Now age 28, Thomas has been in prison for the past 15 years, serving 40 years for the crime of being an unarmed tag-along in a non-lethal shooting at age 14. This project would possibly be Christopher's last chance for the public to hear the story of his experience in the justice systems.

The journalists knew how to write the textual part of this story. The first fact-filled draft was over 8,000 words. Condensing that into a virtual world mini-documentary in one semester was not easy. This was real journalism, so everything in the machinima had to be based on verified facts. Project interns read thousands of document pages to find pivotal life experiences and critical fact excerpts from records written by Thomas' family, social workers, teachers, mental health professionals and police who worked the case. These were augmented by transcriptions from sentencing hearings. These real words were read and recorded by project interns and staff, just like real actors recreating scenes in a real-world documentary. The voices were edited together with machinima footage of virtual world avatar action. The avatars were modeled after the real-life people in Thomas' story, using photos as source material (Figure 12).


**Figure 12.** Real people to avatars. Photo by Claire Bohrer.

This project's virtual world scenarios and avatars may appear less visually sophisticated and more two-dimensional than the deep immersive journalism produced for viewing in headsets like the Oculus Rift. However, in his review of the literature, Foreman (2009) found that "in many studies reviewed … head immersion VR has been said to create a greater feeling of presence than desk-top presentation, although VEs [virtual environments] can be effective when programmed using relatively cheap software ... and presented on a cheap monitor" (p. 20). So, if building big studios with expensive headset-related technology is not possible, starting with inexpensive, relatively easy-to-use tools like OpenSimulator can be an excellent launching pad for more technologically sophisticated projects in the future. Every journey begins with a first step.

Our first step provided excellent intern training in the same principles and skill sets used with more expensive software and gear. The investment is very affordable for even the smallest colleges. Plus, OpenSimulator virtual worlds and machinima are accessible to the broad audience of computer and mobile device users. It is part of a low-cost progression toward de la Peña's deep immersive journalism described earlier. This first step also fulfilled the proposal project goal to "demonstrate how students working in a real newsroom can use existing virtual world (VW) tools to begin that journey to VR storytelling" (Online News Association, year?). Indeed, OpenSim world viewers (software used to enter the world) allow users the option to experience the 3D world with an Oculus headset. Additionally, even without the headset, the world viewer software has camera settings that can capture 360-degree machinima for watching with Google Cardboard or similar devices. This offers experiences similar to De la Peña's *Kiya*, premiered at the Sundance Film Festival (2016). It is an emotionally disturbing, deep immersive journalism story of domestic violence, which was also showcased on *The New York Times*' virtual reality pages. This is a bonafide journalism medium.

**The Project from the Virtual World Developer's Point of View:**

The invitation to work with a journalism professor and interns to create a virtual world for immersive journalism was an appealing creative challenge. Once the grant was awarded, I began gathering Creative Commons licensed 3D assets and established an OpenSimulator virtual world location on an OpenSim hosting service. That was the easy part.

The main challenge was our small window of time from project conception to completion. Two summer interns would produce a short proof-of-concept machinima and assist in preparing the virtual world for the fall interns, but the work of finding and writing stories, building 3D scenarios, scripting and producing machinimas and developing a mobile app would happen during the short 16-week fall semester. Another challenge involved optimizing team member talents and teaching new skills to everyone, while satisfying the project grant requirements and the learning expectations of 12 interns.

The summer interns—two computer science majors—arrived enthusiastic about learning OpenSimulator software. They were skilled and comfortable working with me remotely. I was impressed when they installed the OpenSimulator server software on their own gear, which was not an internship requirement. It was the beginning of students creating their own team talent niche. The summer interns became Weproducers for two machinima, managing the scenario development, filming and sound recordings. My original production pipeline chart had teams assigned to each machinima to facilitate more students learning about virtual world development and machinima production. It contained lists of activities with learning outcomes for each team role. After the fall interns arrived, it was clear they each had expertise to contribute and specific new skills they wanted to learn. We then archived the original production pipeline chart.

The fall semester started and we began a fast-paced race to our deadline. Every week included inworld tutorial assignments for the interns. Then we found the Christopher Thomas story. Suddenly, no one had time for inworld activities. Interns now focused on using Google Docs not only as planned—for virtual world and machinima production task management—but to track the Thomas story research data. I archived the remainder of my inworld assignments.

As I watched the project's evolution and the interns at work, it was clear a very creative, collaborative process was occurring. In just 16 weeks, the team produced two virtual world documentary machinimas filmed and edited by three people with no previous experience. We enlisted voice-over talent from our intern team, produced an alpha version of a mobile app created by our two uber producers, and completed the second draft of an investigative long-form journalism story collaboratively researched and written by over a dozen people.

We also developed two OpenSimulator virtual world regions for machinima production and one region designed to lead teams new to virtual worlds and machinima through interactive tutorials (Figures 13 and 14). It did not all happen according to my plans, but what did happen met our project goals and surpassed my expectations of the interns' collaboration capabilities.


**Figure 13.** Homework meeting inworld. Photo by Gwenette Writer Sinclair.

**Figure 14.** Homework tutorial inworld. Photo by Gwenette Writer Sinclair.

Three students internships have been extended to complete our third machinima and mobile app. We are also producing a complete hands-on toolkit with an instructional manual including all the best practices garnered from our experience. It will include copies of the project's virtual world regions with interactive training pathways, immersive journalism learning activities, an avatar character production workshop, and machinima scenarios. The toolkit will be available as a free download on the project's website.

From my perspective, the project was a successful, transdisciplinary collaboration. It demonstrated that virtual world immersive journalism skills can effectively be taught to university students in a 3D virtual world. Our diverse team learned remote collaboration skills and new software—including the OpenSimulator virtual world platform, the Firestorm world viewer, video capturing and editing tools and Google Docs—to produce immersive journalism stories about the juvenile justice system. As a team we were flexible, creative and determined to finish the race.

**The Project from a Participating Student's Point of View:**

As an English major, I was interested in journalism, but before this project, was neither familiar with immersive journalism nor virtual worlds. I was excited to be a part of something so innovative and new to me.

In August, I met with our interdisciplinary group of 12 undergraduate students at The Center for Sustainable Journalism, where we would meet weekly for the next 15 weeks. Each of us was also required to work an additional 12 hours a week on the project. By the second week, I was completely committed to my internship, with responsibilities including project manager, researcher, process blogger and journalist.

To understand immersive journalism, we were first introduced to our virtual world, learning how to communicate with each other inworld and navigate through it with our avatars. I was fascinated by the notion of taking on a separate persona, being able to walk, run, and even fly through a different world. I learned anyone could build a world in this OpenSimulator environment, or simply explore the hundreds of OpenSim worlds and the community of thousands of OpenSim world users and creators.

Initially, I researched virtual worlds as an emerging journalism platform and completed inworld assignments. When we came upon the Christopher Thomas story, we all switched to journalist mode. The story came to life as I researched facts through handwritten and court documents, live interviews with people associated with the crime and trips to the story's locations. After the journalism team relayed all the information to our three-person machinima team, the story came to life in a completely different way.

With traditional journalism, an audience would only be able to read about Thomas' story. With the machinima, the audience would be taken back in time to the 1990s, to experience his life from age two until he was incarcerated at age 14.

## Student Project Intern Surveys

After the project, student interns were surveyed to gather their perspectives of the project. Ten interns, including myself, completed the survey.

Student interns heard about the project via e-mails, Facebook, and Kennesaw University career website postings. Coming into the project with “an open mind,” students were excited to be a part of an innovative, exciting project. With little virtual world experience before the project, many interns felt challenged by the inworld assignments, as they struggled with creating prims and learning the controls. Yet, students were fascinated with aspects of the virtual world like flying and teleporting to different virtual worlds and how real the virtual world could feel.

By the end of the project, all the interns agreed that they had expanded their knowledge of virtual worlds and how to navigate their avatars through them. Furthermore, although none of the interns had ever heard of a machinima before the project, they all agreed they had a better understanding of what a machinima is and how one is produced after the project. Also, all interns stated that they were not very familiar with the term immersive journalism at the beginning of the project, but by the end, they were able to define it in their own words.

When asked at the end of the project if virtual worlds were an effective way to tell news stories, the consensus was yes. Interns noted the effectiveness of virtual world journalism, saying it allows audience members to visit past events and get a first-hand, visual feel of the story as it unfolds. Overall, the majority of the interns agreed that the virtual world platform could have a future in journalism.

However, despite the overall positive assessment of virtual world journalism, there were concerns about using virtual worlds to tell news stories. One concern was the amount of time allotted to write and produce the stories, while another was the question of whether or not virtual worlds can be as vivid and descriptive as the written word.

## Student Audience Perceptions of Virtual World Journalism

To test immersive journalism’s ability to generate empathy in college students, the JJIE Virtual World Team presented its project’s machinimas along with examples of de la Peña’s work to students at Kennesaw State University.

After discussing immersive journalism, 24 student attendees, most from a Mass Media Studies Communications Class, were surveyed on their perceptions of virtual world journalism vs. traditional journalism. Eighteen of the 24 students were “not familiar” or had “never heard of” immersive journalism, the rest being “somewhat familiar.” Twenty-three students had little to no experience with virtual worlds and only five students had viewed a machinima before.

When asked after the presentation if traditional textual journalism or virtual world journalism would appeal more to an audience, 43% said virtual world journalism.

When asked why virtual world journalism is effective for presenting stories, students explained how it triggers emotions and enables participation, and that it is more realistic and gives the audience the ability to connect with the story.

While many agreed that virtual world journalism would appeal more to an audience, 14% had reservations. These students said that textual journalism is simpler, since everyone can read and not everyone wants to have to explore for information. Others said that textual is more cost-effective and is able to reach a wider audience.

However, 43% of students were still torn between the two, noting variables like accessibility, audience age and interests. These students agreed that both are effective in certain scenarios and for certain audiences with different demographics.

## Conclusions

The Virtual Reality (VR) Metaverse is enormous and filled with enormous possibilities. Initiating this type of project requires determining what game engine, what server equipment and what type of world content is optimal for a project. This demands careful evaluation of multiple variables. Having an experienced virtual world (VW) developer on board to make these decisions is crucial. For this project, the VW expert set up both the virtual world regions and created the 3D curriculum training content to teach the interns inworld avatar skills and the principles of immersive journalism machinima production. The participation of a VW expert meant the rest of the project team only had to learn the virtual world and production basics, enabling them to focus on contributing their own unique experience and knowledge to the collaborative project. As stated previously, VR is already being used in a variety of fields from medicine to marketing to journalism (Slater 2014, para 1). So, VR projects provide the opportunity to be interdisciplinary and early planning should be as transdisciplinary as possible.

This project opens the door for future study on the impacts of virtual worlds and mobile virtual world machinima on: (1) public awareness, (2) juvenile offenders education, and (3) deterring juveniles from getting trapped in the system.

An article by Lenhart (2015) of Pew Research Center shows how pervasive digital technologies are in the daily lives of young people. These technologies, especially mobile applications, could be pivotal in reaching youth before they get caught in the juvenile justice system and reaching youth already in the system.

Interactive mobile apps can be combined with this project’s machinima, allowing youth users to consider different options available to the characters at pivotal action points. Choices the youth make can lead to new storylines and more choices, as well as to websites or media with related information. And each choice can lead to polls showing how their decisions compare with their peers. Research by Shields (2015) has shown this to be an effective method for engaging youth in mobile apps.

These interactive apps and the actual 3D virtual world of the machinima scenarios can be integrated into a curriculum for schools, out-of-school programs and juvenile detention facilities. Mantovani (2003) noted that for effective transfer of knowledge in virtual environments, “the experience should seem real and engaging to participants, as ‘if they were in there’: they should feel (emotionally and cognitively) present in the situation.” Youth could enter the 3D virtual world (alone or with friends) to interact directly with AI story characters (artificial intelligence robot avatars), or take on the role of a story character, making their own action choices. They could also record their experiences using a simple inworld snapshot tool and share in real time on social media. These inworld experiences would provide a strong sense of personal identity and presence in the 3D story scenario, as well as social presence while engaging with other avatars. Interactive inworld objects would instantly show youth how their action choices compare with those of their peers. Research data could be gathered from pre- and post-experience surveys, polls within the inworld and app experiences themselves and video capture of the youth using the 3D virtual world. This data would provide feedback for future immersive experience development, and information to youth providers and juvenile justice system decision makers.

One goal of this paper is to demonstrate how the immersive journalism work of researcher and practitioner Nonny de la Peña could be emulated in a university setting. This project’s research chronicles the collaborative hands-on experiences that culminate in successful proof-of-concept student productions. Since this project used the free OpenSimulator virtual world platform and the machinima scenarios were developed using only a few custom objects and many free Creative Commons assets, it was a very fast and very inexpensive project. A $35,000 Online News Association grant enabled the team mentors to successfully introduce students to the practice of truth-based storytelling using virtual world scenarios and avatars to produce immersive journalism stories.

Our research also addresses topics that are being confronted by journalism-industry-based research (Aronson-Rath et al., 2015), including but not limited to the notions that journalists must decide where their projects fit on the VR technology spectrum, use production equipment that best fits their workflow and develop teams that can work well together collaboratively (para 1-8). With the industry increasingly embracing immersive journalism (Brustein, 2014; Manly, 2015; Munster et al., 2015), it is recommended that journalism schools equip their students with the skills to do virtual reality journalism.

To be sure, many universities had incorporated virtual worlds into their journalism curricula. Several universities established virtual classrooms in the user-created virtual world of Second Life from 2004 to 2010, but $150 to $350 monthly per region fees made it challenging for most university budgets to sustain their projects, although some remain. The user-created virtual worlds on the OpenSimulator platform are currently a popular low cost alternative for many university departments. An accurate count of university programs on either platform is difficult since statistics are available only through self-reporting lists. Information about several journalism programs can be found through research. For instance, from 2009 to 2011, the London School of Journalism offered journalism classes in Second Life (Ward, 2009). The Knight Center for Journalism and a researcher from San Diego State University also collaborated in 2010 to offer journalism courses in Second Life focused on teaching math techniques for reporting in a simulated crisis scenario (Knight Center News, 2010). However, offering journalism classes in a virtual reality platform is not the same thing as teaching the nuts and bolts of virtual reality journalism or, better yet, immersive journalism.

Our support for teaching immersive journalism to university students is inspired not just by the success of our work, but by the examples such as DePaul University's journalism school, which offered news writing classes that explored immersive journalism and experimented with virtual reality storytelling (DePaul University, 2015). A virtual reality hackathon, "Hack the Gender Gap," hosted by the USC Annenberg School of Communication and Journalism and MediaShift in October 2015 also challenged teams to develop immersive journalism campaigns for real-life companies (Center for Media & Social Impact, 2016).

Although immersive journalism does not yet replace traditional journalism, especially in the breaking news category, it can complement, and at times replace, long-form journalism, especially for media-averse youth audiences who prize expressive spontaneity. With the ubiquitous use of more powerful consumer technology devices, mobile accessibility and ever-increasing bandwidth, the average citizen is consuming news on multiple devices and media platforms. This project has shown the viability of teaching university journalism students the fundamental techniques for producing immersive journalism stories and preparing them to be journalists in the rapidly changing field of technologically enhanced, immersive journalism.

## References

About Op-Docs. (2015, January 22). *The New York Times*. Retrieved January 2, 2016, from http://www.nytimes.com/2015/01/22/opinion/about-op-docs.html?_r=0http://www.nytimes.com/2015/01/22/opinion/about-op-docs.html?_r=0

Alm, N., Arnott, J. L., Murray, I. R., & Buchanan, I. (1998). Virtual reality for putting people with disabilities in control. *Systems, Man, and Cybernetics, 2*, 1174-1179.

Aronson-Rath, R., Milward, J., Owen, T., & Pitt, F. (2015, November 11). Virtual reality journalism. Tow Center for Digital Journalism. Columbia Journalism School. Retrieved from http://towcenter.org/research/virtual-reality-journalism/

The Beat Within. (1996). About us. Retrieved from http://www.thebeatwithin.org/about-us/

Biocca, F., & Delaney, B. (1995). Immersive virtual reality technology. In F. Biocca and M. R. Levy (Eds.), *Communication in the age of virtual reality* (pp. 57-126). Hillsdale, NJ: Lawrence Erlbaum Associates.

Brennen, B., & Cerna, E. (2010). Journalism in Second Life. *Journalism Studies, 11* (4), 546-554.

Brustein, J. (2014, September 22). A newspaper's first trip into virtual reality goes to a desolate farm. Retrieved from http://www.bloomberg.com/news/articles/2014-09-22/gannetts-first-virtual-reality-journalism-features-a-desolate-farm.

Burdea, G. C., & Coiffet, P. (2003). *Virtual reality technology* (2nd ed.). Hoboken, NJ: John Wiley & Sons.

Burke, J. D., Mulvey, E. P., Schubert, C. A., & Garbin, S. R. (2014, April 1). The challenge and opportunity of parental involvement in juvenile justice services. *Child and Youth Services Review, 39*, 39-47. doi: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3989100/

Campaign for youth justice (n.d.). Fact sheet: SB440. Retrieved from http://www.campaignforyouthjustice.org/Downloads/KeyResearch/MoreKeyResearch/GAFactSheetonSB440.pdf

Cartoon Movement. (2012). Partnership: Juvenile justice information exchange. Retrieved from http://www.cartoonmovement.com/project/9

Center for Media & Social Impact (2015). USC Annenberg hosts virtual reality and immersive journalism hackathon. Retrieved from http://www.cmsimpact.org/blog/usc-annenberg-hosts-virtual-reality-and-immersive-journalism-hackathon

Cruz, R., & Fernandes, R. (2011). Journalism in virtual worlds. *Journal of Virtual Worlds Research, 4*(1), 3-13.

Cullinan, K. (2009). Juvenile justice and openness. *The News Media & The Law, 4*. Retrieved from http://www.rcfp.org/browse-media-law-resources/news-media-law/news-media-and-law-summer-2009/juvenile-justice-and-openne

De la Peña, N. (2016). Kiya, where virtual reality takes us. *The New York Times*. Retrieved from http://www.nytimes.com/2016/01/21/opinion/sundance-new-frontiers-virtual-reality.html?r=0

De la Peña, N. (2015, May). *The future of news? Virtual reality* [Video file]. Retrieved from https://www.ted.com/talks/nonny_de_la_pena_the_future_of_news_virtual_reality?language=en

De la Peña, N., Weil, P., Llobera, J., Spanlang, B., Friedman, D., Sanchez-Vives, M.V., & Slater, M. (2010). Immersive journalism: Immersive virtual reality for the first-person experience of news. *Presence: Teleoperators & Virtual Environments*, 19(4), 291-301.

DePaul University (2015, November). Journalism students explore virtual reality viewing, immersive journalism. Retrieved from http://communication.depaul.edu/about/news-and-events/2015/Pages/journalism-vr.aspx

Eilperin, J. (2016, January 26). Obama bans solitary confinement for juveniles in federal prisons. *Washington Post*. Retrieved from https://www.washingtonpost.com/politics/obama-bans-solitary-confinement-for-juveniles-in-federal-prisons/2016/01/25/056e14b2-c3a2-11e5-9693-933a4d31bcc8_story.html

Electronic Arts. (2016). *Electronic Arts Press Room* [digital images] Retrieved from http://info.ea.com/products/p1509/simcity-buildit (2016) and http://info.ea.com/products/p1504/the-sims-4-get-to-work (2015)

Ellis, C., Adams, T. E., & Bochner, A. P. (2011, January). Autoethnography: An overview. *Forum: Qualitative Social Research, 12*(1). Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/1589/3095

Foreman, N. (2009). Virtual reality in psychology. *Themes in Science and Technology Education, 2*(1-2), 225-252. Retrieved from http://earthlab.uoi.gr/theste/index.php/theste/article/view/33

Hodge, E., Collins, S., & Giordano, T. (2011). *The virtual worlds handbook: How to use Second Life and other 3D virtual environments*. Sudbury, MA: Jones and Bartlett Publishers.

Immersive Journalism. (2012). Hunger in LA: An immersive journalism premiere. Retrieved from http://www.immersivejournalism.com/hunger-in-los-angeles-machinima-video/

Knight Center News (2010). Knight Center tests the use of Second Life in journalism training. Retrieved from https://knightcenter.utexas.edu/knight-center-tests-use-second-life-journalism-training

Koda, T., & Ruttkay, Z. (2009). Cultural differences in using facial parts as cues to recognize emotions in avatars. *In Intelligent Virtual Agents, Volume 5773 of series Lecture Notes in Computer Science* (517-518). Amsterdam, The Netherlands: Springer Berlin Heidelberg.

Latar, L. N., & Nordfors, D. (2009). Digital identities and journalism content: How artificial intelligence and journalism may co-develop and why society should care. *Journalism Innovation, 6*(7), 1-44.

Latz, A. (2012). Flow in the community college classroom? An autoethnographic exploration. *International Journal for the Scholarship of Teaching and Learning, 6*(2),1-13. Retrieved from http://digitalcommons.georgiasouthern.edu/ij-sotl/vol6/iss2/15

Lenhart, A. (2015, April 09). Teens, social media & technology overview 2015. [Web log post]. Retrieved from http://www.pewinternet.org/2015/04/09/teens-social-media-technology-2015/

Ludlow, P., & Wallace, M. (2007). *The Second Life Herald: The virtual tabloid that witnessed the dawn of the metaverse*. Cambridge, MA: MIT Press.

Lugrin, J., Latt, J., & Latoschik, M. E. (2015). Avatar anthropomorphism and illusion of body ownership in VR. *Proceedings of the IEEE VR 2015*.

Manly, L. (2015, November 19). A virtual reality revolution, coming to a headset near you. *The New York Times*. Retrieved from http://www.nytimes.com/2015/11/22/arts/a-virtual-reality-revolution-coming-to-a-headset-near-you.html

Mantovani, F., & Castelnuovo,G. (2003). Sense of presence in virtual training: Enhancing skills acquisition and transfer of knowledge through learning experience in virtual environments. In G. Riva, F. Davide, & W.A IJsselsteijn (Eds.), *Being there: Concepts, effects and measurement of user presence in synthetic environments* (167-181). Amsterdam, The Netherlands: IOS Press.

Milk, C. (2015, March). *How virtual reality can create the ultimate empathy machine* [Video file]. Available from https://www.ted.com/talks/chris_milk_how_virtual_reality_can_create_the_ultimate_empathy_machine

Miner-Romanoff, K. (2014). Student perceptions of juvenile offender accounts in criminal justice education. *American Journal of Criminal Justice, 39*(3), 611-629. doi:10.1007/s12103-013-9223-5

Mosera, E., Derntla, B., Robinsona, S., Finkd, B., Gurb, R.C., & Grammere, K. (2007).Amygdala activation at 3T in response to human and avatar facial expressions of emotions. *Journal of Neuroscience Methods, 161*(1), 126-133.

Munster, G., Jakel, T., Clinton, D., & Murphy, E. (2015, May). Next mega tech theme is virtual reality. Piper Jaffray Investment Research. Retrieved from https://piper2.bluematrix.com/sellside/EmailDocViewer?encrypt=052665f6-3484-40b7-b972-bf9f38a57149&mime=pdf&co=Piper&id=reseqonly@pjc.com&source=mail

Ngunjiri, F. W., Hernandez, K. C., & Chang, H. (2010). Living autoethnography: Connecting life and research [Editorial]. *Journal of Research Practice, 6*(1), Article E1. Retrieved from http://jrp.icaap.org/index.php/%20jrp/article/view/241/186

Online News Association (2015, April 24). Winner: Kennesaw State University. Retrieved from http://journalists.org/programs/challenge-fund/2015-16-challenge-fund-winners/winner-kennesaw-state-university/

Second Life. (2008, September 21). *Metanomics* [Video file]. Retrieved from https://www.youtube.com/watch?v=2BzQwVy1yCc

Shields, L. (2015, December 22). How design can help teens prevent dating violence and revive a nonprofit brand. Retrieved from https://www.linkedin.com/pulse/how-can-great-strategy-design-revive-non-profit-brand-lance-shields

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: John Wiley & Sons.

Simpson, J. (2015, November 30). 15 reasons your brand should be on Snapchat [Weblog]. Retrieved from https://econsultancy.com/blog/67257-15-reasons-your-brand-should-be-on-snapchat/

Sinclair, G. W. (Photographer). (2008). *Explore Kennesaw State University in Second Life!!* [digital images] Retrieved from https://www.flickr.com/photos/gwenette/sets/72157622460858005/

Slater, M. (2014, May 27). Grand challenges in virtual environments. *Front. Robot.* AI 1:3. http://dx.doi.org/10.3389/frobt.2014.00003

Starr, L. J. (2010, July). The use of autoethnography in educational research: Locating who we are in what we do. *Canadian Journal for New Scholars in Education, 3*(1) Retrieved from http://cjnse-rcjce.ca/ojs2/index.php/cjnse/article/view/149

Suitts, S., Dunn, K., & Sabree, N. (2014). Just learning: The imperative to transform juvenile justice systems into effective educational systems. Retrieved from http://eric.ed.gov/?id=ED555854

Sundance. (2015, December 3). Sundance institute celebrates new frontier 10th anniversary at 2016 festival. Retrieved from https://www.sundance.org/blogs/news/new-frontier-projects-and-films-announced-for-2016-festival

Taylor, M. & Coia, L. (2009). Co/autoethnography: Investigating teachers in relation. In C. Lassonde, S. Gallman & C. Kosnik (Eds.), *Self-Study research methodologies for teacher educators* (pp.169-186). Rotterdam, The Netherlands: Sense Publishers.

Totilo, S. (2007). Burning the virtual shoe leather: Does journalism in a computer world matter? *Columbia Journalism Review, 46*(2), 38-44.

Ward, A. (2009, February). London School of Journalism goes virtual. *Publishing Talk*. Retrieved from http://www.publishingtalk.eu/journalism/london-school-of-journalism-goes-virtual/.

Weinberger, M. (2015, March 29). The company was 13 years early to virtual reality—and it's getting ready to try again. *Business Insider*. Retrieved from http://www.businessinsider.com/second-life-is-still-around-and-getting-ready-to-conquer-virtual-reality-2015-3

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

***Leonard Witt** is executive director of the Center for Sustainable Journalism (CSJ) at Kennesaw State University. In 2008, he was named an Eminent Scholar by the Board of Regents of the University System of Georgia and awarded the Distinguished Service Award for Kennesaw State University. With $1.5 million in funding from the Harnisch Foundation, he founded the CSJ in 2010. The CSJ's mission is to discover innovative ways to produce financially sustainable, high quality and ethically sound journalism. It produces applied research, builds collaborations and advances innovative projects to test the viability of niche, nonprofit journalism. In keeping with that mandate, the CSJ now publishes the Juvenile Justice Information Exchange (JJIE.org) and Youth Today. With a combined 1.25 million page views annually, they cover youth justice and youth development issues daily with professional journalists. The CSJ works closely with university faculty and employs about 20 annually students in journalism, social media and advertising and circulation sales. Witt was a journalist for more than 25 years, including being editor of Sunday Magazine at the Minneapolis Star Tribune and Minnesota Monthly magazine. Before entering academia in 2002, he was the executive director of the Minnesota Public Radio Civic Journalism Initiative.*

***Farooq Kperogi**, Ph.D., is an assistant professor of Journalism and Emerging Media in the School of Communication and Media at Kennesaw State University, Georgia. His scholarly work on a wide range of communication topics such as online journalism, alternative and citizen journalism, diasporic media, journalistic objectivity, public sphere theory, indigenous language newspaper publishing in Africa, cybercrime, international English usage, online sociability of digital migratory elites, social media journalism, and media theory has appeared in The Review of Communication, New Media & Society, Journal of Global Mass Communication, Journal of Communications Media Studies, Asia Pacific Media Educator and in several book chapters. He is also the author of Glocal English: The Changing Face and Forms of Nigerian English in a Global World (2015), and blogs at www.farooqkperogi.com.*

***Gwenette Writer Sinclair**, CEO of 1 Virtual World Development, is a Metaverse strategist, virtual world developer, mixed reality event producer and website designer. She specializes in virtual university campus design, immersive 3D training facilities, virtual curriculum implementation, custom avatar design, international virtual conference management and project-focused WordPress site development. As a virtual world content creator her focus is on Transitional Replica environments that provide the realism of a physical world locations and seamlessly incorporate the unique affordances of the 3D virtual platform. An experienced K-12 teacher and administrator in many innovative educational systems, she also provides customized one-on-one or group training in virtual world skills to her clients. Sinclair's Metaverse projects include collaborations with Rutgers University, Kennesaw State University, University of Texas, University Central Florida, King's Hospital School (Dublin, Ireland), Junior High School of Rhodes (Greece), Peace Train Charitable Trust, Children's Hospital of Chicago, US Army MOSES Project, Second Life Community Conference, OpenSim Community Conference, and Broadway Producer Tom Polum. See Kennesaw State University campus project here https://www.flickr.com/photos/gwenette/albums/72157622460858005. For more information https://www.linkedin.com/in/gwenettewritersinclair*

*__Claire Bohrer__ is a senior at Kennesaw State University (KSU). She plans to graduate in May 2016 with a Bachelor of Arts degree in English and a minor in Spanish. She is an Honors Student and she is also an avid athlete, being on the KSU track and cross country team since her freshman year. Since fall 2014, She has been a writing assistant at the KSU Writing Center, assisting students of all majors with various papers. She has always enjoyed writing, which is what led her to apply for the JJIE Virtual World Journalism internship. She saw this project as the perfect opportunity to learn more about journalism and the emerging field of virtual world immersive journalism. Although the project has ended, Claire still works at the Center for Sustainable Journalism, where she is a part-time editorial assistant for two publications, the Juvenile Justice Information Exchange (JJIE.org) and Youth Today. After graduation, Claire plans to continue her research and work in the journalism or communications field.*

*__Dr. Solomon Negash__ is professor of Information Systems and Executive Director of the Mobile Application Development Center in the Coles College of Business at Kennesaw State University. He earned his Ph.D. from Claremont Graduate University, Claremont, California. His research focuses on mobile applications, classroom technology, technology adoption, technology transfer, and outsourcing. He has published over a dozen journal papers, two edited books, several book chapters, and over three dozen conference proceedings. Professor Negash's experience includes 20 years in industry and 15 years in academe. His industry service includes plant manager, consultant, strategic thinking and planning, coordinator of an international Ph.D. program, editor-in-chief, founder and first chairman of the Ethiopian Information and Communication Technology advisory body, and founder and chairman of a charitable organization. The awards Professor Negash received include distinguished intellectual contribution award, distinguished e-Learning award, distinguished graduate teacher award, distinguished service award, and international goodwill and understanding award.*

# "Security by Obscurity": Journalists' Mental Models of Information Security

*Susan E. McGregor and Elizabeth Anne Watkins*

*Despite wide-ranging threats and tangible risks, journalists have not done much to change their information or communications security practices in recent years. Through in-depth interviews, we provide insight into how journalists conceptualize security risk. By applying a mental models framework, we identify a model of "security by obscurity"—one that persists across participants despite varying levels of investigative experience, information security expertise and job responsibilities. We find that the prevalence of this model is attributable at least in part to poor understandings of technological communication systems, and recommend future research directions in developing educational materials focused on these concepts.*

## Introduction

Among the first and most shocking of the Snowden revelations of 2013 was the public disclosure of the U.S. government's large-scale collection of communications metadata, including the information of U.S. citizens (Greenwald, 2013). While there was nothing to suggest that journalists were particular targets of this effort, the revelations were nonetheless a shock to the U.S. journalism community in particular, which for decades had operated with the understanding that their communications with sources were effectively protected from government interference by the network of so-called "shield laws" that prevented law enforcement from using the legal system to compel journalists to reveal their sources. That the Snowden documents also implied government infiltration of the systems of companies (such as Google) (Greenwald & MacAskill, 2013) to which many journalistic organizations had recently turned over their own email services, was even more unsettling (Wagstaff, 2014).

Moreover, the Snowden revelations came at a time when the journalism industry was feeling particularly sensitive about the government's collection and use of metadata: only several weeks prior, the U.S. Department of Justice had notified the Associated Press that it had been secretly monitoring both the office and mobile phone lines of several AP journalists as part of a leak investigation (Horowitz, 2013). Though outcry from the industry over this activity eventually resulted in promises from the attorney general that orders for journalists' information would be reviewed more closely (Savage, 2013), these were only good-faith assurances. Should they be contravened, a news organization could not, as Senior Vice President and General Counsel of Hearst Corporation Eve Burton put it, “march into court and sue the DOJ” (McGregor, 2013, para. 7).

At the same time, the U.S. government’s willingness to treat metadata as legally dispositive was playing a role in multiple high-profile journalistic leak investigations. Though another 18 months remained in the standoff between the Department of Justice and *The New York Times* reporter James Risen over Risen’s refusal to identify the source of classified information included in his 2006 book State of War, District Judge Leonie Brinkema had quashed the subpoena for Risen’s testimony, on the basis that the “numerous telephone records, e-mail messages, computer files and testimony that strongly indicates that Sterling was Risen’s source” (Brinkema, 2011, p.23). In 2015, Jeffrey Sterling was convicted and sentenced under the Espionage Act, though Risen never testified (Maass, 2015). Similarly, just a few weeks before the Snowden revelations *The Washington Post* reported on the DOJ’s use of Fox News reporter James Rosen’s telephone and other metadata to build a case against Stephen Jin-Woo Kim in 2010 (Marimow, 2013).

The security risks to journalists and journalistic organizations in recent years have not been confined to legal mechanisms and leak prosecutions, however. During 2013 alone a host of major news organizations—including *The New York Times*, *The Wall Street Journal*, *Bloomberg*, and *The Washington Post*—revealed that their digital communications systems had been the target of state-sponsored digital attacks (Perlroth, 2013), a pattern that was corroborated by independent security researchers in the spring of 2014 (Marquis-Boire & Huntley, 2014). In at least some cases, the objective of the attacks seemed to be the identification of journalists’ sources. In the case of The New York Times, for example, the timing and pattern of the attack suggested that the motivation was to uncover the identities of sources for a range of embarrassing stories about Chinese government officials (Perlroth, 2013). In other cases, hacking efforts appeared more ad-hoc and retaliatory, as when the Syrian Electronic Army (SEA) defaced the VICE website following a story that allegedly revealed the real identity of SEA member “Th3 Pr0” (Greenberg, 2013), or when the Associated Press’ Twitter account was hacked, leading to false reports of a bomb detonating near the White House (Blake, 2013).

Despite the wide range of threats and tangible consequences of these events (for example, both Sterling and Kim were convicted and sentenced to prison time as a result of their implication as journalistic sources), research shows that in the roughly 30 months since the Snowden revelations, even investigative journalists have not done much to change their practices with respect to information or communications security. For example, a Pew Research Survey of investigative journalists conducted in late 2014 found that fully half of these practitioners did not report using information security tools in their work, and less than 40% reported changing their methods of communicating with sources since the Snowden revelations (Mitchell, Holcomb & Purcell, 2015a). Yet the same research indicates that the majority of investigative journalists believe that the government has collected data about their communications (Mitchell, Holcomb & Purcell, 2015a). And while the Pew survey found that fully 88% of respondents reported “decreasing resources in newsrooms” as the top challenge facing journalists today, more than half (56%) named legal action against journalists as the second.

On its surface, these results offer an apparent contradiction: roughly the same majority proportion of investigative journalists (62%) had not changed the way they communicate with sources in the 18-months after the Snowden revelations, despite the belief that the government is collecting data about their communications (Mitchell, Holcomb & Purcell, 2015a), and that legal action against journalists is the second-biggest challenge faced in the profession today. And, as noted above, these concerns are well founded given the significant reliance by law enforcement on communications’ metadata to prosecute journalistic sources.

## Literature Review

### Mental Models and Journalists’ Security Practices

Discrepancies between belief and practice are hardly unique to journalists, and a range of frameworks is used in the behavioral sciences to both describe and these gaps and design mechanisms for change (Gastin & Gerjo, 1996; Festinger, 1962). Of these, however, only a mental models framework captures both the systemic and technological nature of journalists’ information security space.

While there are many definitions of the term mental model across fields (Doyle & Ford, 1998), one useful definition comes from Norman, who characterizes a mental model as a construct that a person or group uses to represent a system and make decisions about it (1983, p. 7). Based on our research and the fact that journalists’ security understandings and practices exist at the intersection of multiple technological and human systems of which journalists themselves may have varying levels of understanding (Mitchell, Holcomb & Purcell, 2015a), we find that exploring and characterizing journalists’ mental models of information security helps illuminate how and why journalists make the information security choices that they do.

### Growing Digital Risk

The majority of both legal and technological security risks to journalists and sources in recent years have centered on digital communications technology. In the United States, the most high-profile of these were leak prosecutions that relied on digital communications metadata (Horowitz, 2013; Brinkema, 2011), and technical attacks by state actors on U.S. news organizations (Perlroth, 2013a; 2013b).

While such incidents are becoming unsettlingly common, however, this does not mean that they constitute an appropriate proxy for the breadth of security risk actually faced by journalists and journalistic organizations, even in a solely U.S. context. While by 2013 the Obama administration had brought a total of seven cases against journalists’ source under the Espionage Act (Currier, 2013) more than twice that of all previous administrations combined—this record is not of a particular policy decision or a greater absolute number of leaks, but also of more general policies and the greater feasibility of tracking disclosures (Shane & Savage, 2012). As one department official put it:

> As a general matter, prosecutions of those who leaked classified information to reporters have been rare, due, in part, to the inherent challenges involved in identifying the person responsible for the illegal disclosure and in compiling the evidence necessary to prove it beyond a reasonable doubt (Liptak, 2012, p.1)

In other words the recent flurry of leak prosecutions is not the result of the administration working harder, but because the process is getting easier, including “a proliferation of e-mail and computer audit trails that increasingly can pinpoint reporters’ sources” (Shane and Savage, 2012, para. 3).

Similarly, while sophisticated technical attacks by nation-states like China (Perlroth, 2013a) and North Korea (Grisham, 2015) have been prominently reported, more commonplace attacks have also become more frequent. For example, more generalized phishing attacks (Greenberg, 2014) and exploitation attacks (Mattise, 2014) have also been on the rise.

Thus, while the industry consciousness has been focused on leak prosecutions and technical attacks relating to national-security beats, the reality is that the general security risk for journalists has been growing in recent years across the board. From SEC investigations (Coronel, 2014; Hurtado, 2014) to phishing attacks (Associated Press, 2013; Greenberg, 2014), evidence suggests that while thus far the consequences of national-security related threats have been more severe, the risks faced by journalists are more general across the board.

Despite both the severity and pervasiveness of these attacks, however, research indicates that journalists believe that information security is “as a serious concern mainly for journalists who cover national security, foreign affairs or the federal government” (Mitchell, Holcomb & Purcell, 2015a, 13). Reflecting this attitude, more than 60% of investigative journalists had never participated in any type of information security training (Mitchell, Holcomb & Purcell, 2015a).

**Mental Models**

Journalists’ failure to engage with information security topics and tools can be explained in a number of ways; indeed, failure to adopt information secure tools and practices has been the subject of substantial research within the security community, especially since Alma Whitten and J. D. Tygar’s seminal paper on the topic, “Why Johnny can’t encrypt” (1999). Like Whitten and Tygar, computer security researchers have tended to focus on either the usability of the security tools available (Renaud, Volkamer & Renkema-Padmos, 2014), or to uncritically label information security failures as user errors (as discussed in Sasse et al., 2001). Even if accurate, however, these explanations do little to explain why journalists may not see information security practices as essential in the first place.

By contrast, understanding journalists’ mental models of information security can provide valuable insight into how they interact with security-related systems and processes. Because mental models comprise “what people really have in their heads and guide their use of things” (Norman, 1983, p. 12), they can offer both “explanatory and predictive power” (Rook & Donnell, 1993, p. 1650) for journalists’ decisions about systems and situations like digital communications and information security.

A complete mental model is usually comprised of one or more system models along with related knowledge and concepts about how that system behaves in particular domains (Brandt & Uden, 2003). For example, a mental model of using a search engine to locate information on the Internet might be comprised of a system model of how the search engine retrieves and ranks information, along with conceptual models about what types of search terms will yield the preferred results. Taken together, these models would constitute the particular users mental model of Internet searching.

Importantly, however, the system models that help make up a given model are not always complete or accurate; while this may reduce the efficacy of the mental model, it does not necessarily render it completely useless. For example, many of us are able to employ sufficiently useful mental models of searching with Google that we can use it to find the Web information we are looking for; given that their search algorithm is both complex and proprietary, however, we do not have a complete system model of how the search engine actually functions. As such, it is possible for users to have mental models based upon inaccurate or missing system models that are still sufficient for use.

Moreover, experience with a system does not necessarily translate to an accurate system *or* mental model of it. For example, early research on users’ mental models of the Internet found that only a small number of the users surveyed—many of whom used it quite extensively and effectively for their desired purposes—possessed a complete and detailed mental model of how the Internet functioned. This led the researchers to conclude that “frequent use of the Internet appears to be more of a necessary than a sufficient condition for detailed and complete mental models of the Internet” (Thatcher & Greyling, 1998, 304). This finding has been echoed in related findings about users’ mental models of search engines (Brandt & Uden, 2003), email (Renaud et al., 2014) and credential management (Wastlund, Angulo, & Fischer-Hubner, 2012). In the case of encrypted email in particular, even a computer-science background-which might presumably affect participants’ understandings of technical systems-had no apparent impact on the completeness or accuracy of participants’ mental models of email communication (Renaud et al., 2014). These smaller experimental results are also supported by broader, more recent findings. For example, a significant percentage of global social network users are unaware that services like Facebook are on the Internet (Mirani, 2015).

## Methods

In order to learn more about how journalists’ mental models of information security might be influencing their related attitudes and behaviors, we conducted in-depth, semi-structured interviews with journalists (N = 15) and editors (N = 7) about their security preferences, practices and concerns. Although there is no single methodology for working with or identifying mental models (Stevens & Gentner, 1983; Renaud et al., 2014), we determined that in-depth interviews would offer us the most comprehensive view of “what people really have in their heads and guide their use of things” (Norman, 1983, 12). To help understand how the interplay between journalists’ individual work with sources and other professional responsibilities—such as editing for and organizing other reporters—shaped their needs and practices with respect to information security, the interview script varied according to each participant’s primary role as a reporter or editor. Thus, while both sets of interview questions focused on security attitudes and behaviors, the “reporter” script focused on questions around individual attitudes and practices while the “editor” script included broader policy questions. We made this distinction based on our understanding of the differing scope of responsibility and awareness between these two roles in journalistic organizations, differences that had some impact on our findings, as discussed below.

### Participants

All of the interview subjects were full-time employees at well-respected media organizations, ranging in size and focus from small, U.S.- or issue-focused news outlets to large, international media services with bureaus around the world. While the majority of the participants was located in the United States, some of the participants were located based in Europe (n = 8) and were interviewed in their native language, with the interview responses translated to English during transcription. Ten participants were men and 12 were women.

### Ethical Considerations

The entire protocol for this research was conducted under the auspices of the Columbia University IRB, and special care was taken to limit the creation or exposure of any sensitive information during the course of the research process. To this end, participants were often recruited through existing professional networks via person-to-person conversations; as such, the identity of particular interview subjects was often unknown to the researcher prior to the interview itself.

Similarly, we were careful during the interviews to discourage participants from sharing identifying information or sensitive details about particular sources, stories or incidents, in order to limit the risk of compromising any individuals or the efficacy of particular practices.

Participants were also given the option to decline recording of the interview, and to decline to answer any individual questions, though all participants agreed to recording and responded fully. All audio recordings were kept encrypted and labeled only in coded form, both in storage and in transit.

### Grounded-theory

Once all interviews were complete, the audio recordings were translated, if necessary, and then transcribed in English, and coded by the researchers using a grounded theory approach (Glaser & Strauss, 1967). The grounded theory method is designed to help identify authentic themes from qualitative interview material through successive iterations of coding and synthesis. By beginning with an initial coding process that relies heavily on the actual language used by participants, a grounded theory method helps minimize the influence of researcher expectation and bias when evaluative qualitative results by drawing topic classifications directly from the participants’ interview material, rather than by bucketing responses according to a predetermined rubric. Once a set of themes is identified via the initial coding, these are then synthesized and refined—a process known as “focused coding”—for application across the wider data set.

### Participant roles and expertise

In addition to the themes identified through our grounded theory analysis, we also evaluated our results in the context of users’ primary role as a reporter or editor, and on our own analysis of their emergent expertise in information security. As we discuss below, however, none of these factors had a significant interaction with participants’ mental models of security.

## Results

Overall, our results indicate that journalists’ mental model of information security can best be characterized as a type of “security by obscurity”: the belief one need not take particular security precautions unless one is involved in work that is sensitive enough to attract the attention of government actors. While we are intentionally using this term in a way that deviates from the typical computer-security definition (Anderson, 2001; Mercuri & Neumann, 2003) we do so in part to acknowledge the tangible security benefits that obscure solutions can offer to organizations in terms of slowing down or reducing the severity of an attack. As we discuss below, however, we find that there is little actual “obscurity” available to journalists, making this conceptually attractive characterization of security risk of little practical value.

### “Sensitivity” as a proxy for risk exposure

In line with previous findings (Mitchell, Holcomb & Purcell, 2015a), a recurring theme in our work was participants’ use of the “sensitivity” of particular stories, subjects, sources, or geography as a proxy for security risk exposure, with more than half of our subjects indicating the need for security precautions was dependent on the presence of one of these features. As one participant put it:

> It depends on the sector, but not everyone has sensitive information. We have many open sources that don’t require any particular protection...It’s just in certain cases that one really needs to be careful.

This characterization of security risk applied to participants on both sides of the issue, i.e. both journalists on, for example, national-security beats and those on other beats suggested that the need for security was dependent on one's coverage area. As another participant commented:

> If you were on the national security beat [security technology] would be really useful. But I write about domestic social problems, education, crime, poverty.

When asked about the need for specifically information security-related practices, one participant put it even more simply:

> I feel like it depends on how much you think someone is actively spying on you.

Overall, these comments indicate that participants perceived security risk to be primarily related to how sensitive or visible one's subject of reporting may be to powerful actors, rather than the particular vulnerabilities of the collaboration, sharing, recording and transcribing mechanisms through which that reporting is done. Participants who did not consider their coverage areas controversial, then, tended to minimize or dismiss the existence of information security risks to themselves and their sources. Participants who did cover "sensitive" beats, likewise, distinguished their own needs from those of other colleagues who did not do this type of work.

This pattern was pervasive across both reporters and editors, despite the fact that editors knew details of specific security incidents that did not necessarily support a relationship between particular beats and security risk. While both groups adhered to this model of security risk, our research suggests that the two groups rationalized it differently. Many reporters expressed a lack of first-hand experience with security incidents or concerns. As one reporter described it:

> I haven't really dealt with something that was life or death. An extra level of security just didn't seem necessary.

For editors, however, information security was beat-dependent enough that other, more universal newsroom concerns were a higher priority. As one editor said:

> [Information security is] handled kind of on an ad-hoc basis by different reporters and teams depending on the sensitivity of the kind of stories they're working on…it's just not a big enough priority for the kind of journalism we do for it to be anywhere near the top of my tech wish list.

In addition to the above, the researchers also evaluated results for an interaction between information-security expertise, investigative experience, and the use of subject "sensitivity" as a proxy for security risk, but found no effect for these characteristics. In other words, participants described security risk in terms of subject sensitivity regardless of their information-security expertise or investigative experience.

### Face-to-face conversation as risk mitigation

In keeping with their view of security risk as contingent on the sensitivity of coverage, our participants reported using a wide variety of security-enhancing tools and techniques in particular situations, some of which will be discussed below. One security strategy referenced by the vast majority of participants, however, was the use of face-to-face conversation as a security strategy. One participant described this in the context of working with a sensitive source:

> If something is sensitive, I say to that person, I’ll come and see you.

However, this strategy also extended to communications with colleagues when dealing with sensitive sources or topics. As another participant explained:

> We don’t put anonymous sources in the emails, we don’t memorialize them in the reporter’s notes—it’s all done verbally.

This strategy of avoiding the use of technology as a privacy or security measure has been previously categorized as a privacy-enhancing avoidance behavior (Caine, 2009, 3146). In this framework, individuals make behavioral choices explicitly intended to avoid situations where privacy could be compromised or violated.

As in previous research (Mitchell, Holcomb & Purcell, 2015a), the majority of our participants spoke of in-person conversations as a go-to security strategy. This was true irrespective of participants’ role, information-security expertise, or experience with investigative journalism. As we will discuss in more detail below, this may at least be in part because this method is guaranteed to be understood by and accessible to all parties. As one editor described it:

> I tried to send an encrypted email to a manager, and she doesn’t have [encrypted] email. So, it’s available to our company…but it hasn’t been a priority for that manager. So I sent a note to her reporter…who was encrypted but was not in the office. So I said, “I’ll walk over and have a conversation with you, because I can’t send you what I would like to send you. I don’t want to put this in writing.”

## Discussion

Though technically a misappropriation of the computer-science term, we describe journalists’ mental models of information security as “security by obscurity” to reflect the two most salient and common features of journalists’ thinking about security risk and avoidance in relation to digital communications technology. Specifically, this mental model treats as “secure” any type of journalism that is sufficiently “obscure” to not be of interest to powerful actors, such as nation-states. We also note, however, that while “security by obscurity” is largely dismissed in the computer science community as a false promise (Anderson, Neumann & Mercuri, 2003), it has been argued that in real-world applications, "obscure" solutions can help delay the onset or mitigate the severity of an actual attack (Stuttard, 2005). Given the large proportion of our participants and those in previous studies whose mental model of security appears to fit with this characterization, we examine the ways in which this mental model both fits and fails journalists' actual information-security needs.

The appropriateness of "security by obscurity" as a mental model for journalists' information-security risk lies in its ability to reflect or predict actual information security risk. Accepting this model as accurate would require two things: first, an indication that being "obscure" as a journalist or journalistic organization is possible, and second, that being lower profile in this way offers a measure of security. If this is so, then it may be that "security by obscurity" is a sensible, if imperfect, mental model of journalists' information-security risk.

If not, however, it is worth looking deeper into the possible reasons why journalists continue to use this mental model, to appreciate what might replace it, and how.

**Are journalists "obscure"?**

While research confirms that large news organizations are under regular attack (Marquis-Boire & Huntley, 2014), it is difficult to ascertain the extent to which smaller news organizations may face similar threats. That said, there are certain types of attacks known to affect media organizations in general: third-party malvertising attacks. Small and large news organizations alike tend to rely on third-party platforms to serve ads, and the organizations affected when an ad platform is breached often number in the hundreds (Brandom, 2014; Cox, 2015; Whitwam, 2016). Since employees of a news organization are also likely to constitute its "readers," the potential for exposure to such risks is arguably higher than the average reader.

**Are "obscure" journalists more secure?**

Given that all of our participants came from well-recognized media organizations, their assessment of security risk tended to relate to individual topics, beats, regions or stories, rather than applying to the media organization as a whole. As noted above, the vast majority of our participants felt that security was a concern primarily for reporters covering national security-related beats, rather than those covering local or social topics. Under this rubric, do non-national security journalists face fewer security risks?

In this case, the evidence is less equivocal: because many high-profile breaches and hacks are actually perpetrated through spearphishing campaigns, in which "targets" receive emails written to look like they came from a friend or colleague, often addressed directly to the target's name with a personal-sounding salutation. Virtually anyone with an organizational email address is an equally likely "target"; one need not even be a journalist. Such campaigns have been a documented or posited part of several high-profile media breaches, including the Associated Press' Twitter account hack (Oremus, 2013), and hacks of *VICE* (Greenberg, 2013) and *Forbes* (Greenberg, 2014).

### Understanding the “security by obscurity” mental model

Given the mechanisms through which security breaches at journalistic institutions have been enacted—as well as the more general targeting of journalistic institutions in general—“security by obscurity” appears to be a poor fit for journalists’ actual level of information security risk. Yet while all of the above-cited evidence was publicly reported (much of it before this study began), this mental model of information security risk still persists across both our study population and that of other researchers. To understand the potential sources of this incongruence, we examined our results for themes that might illuminate why this mental model might persist in the face of such limitations.

### Insufficient system models

As we noted above, mental models are typically composed of one or more “system models” along with domain-specific knowledge and concepts (Brandt & Uden, 2003). There is, however, no requirement that a given system model be complete or even accurate in order to serve as part of a useful mental model. Of the 22 participants in this study, only a handful of these demonstrated what could be described as coherent and complete systems models of digital communications (this assessment was reached based on comments made throughout the interview regarding both ownership and operation of various systems, as well as their specific functions).

Otherwise, even participants who expressed an interest in greater information security were aware of the challenge presented by their own limited understanding of the systems with which they were dealing. As one participant put it:

> I’ve been trying to reduce my Dropbox usage, and so I’ve been using just a USB stick or something. Which, I actually have no idea how safe that is. It seems more safe.

Another participant described information security risk as equally predictable (and, presumably, comprehensible) as a natural disaster:

> It’s one of those things, like worrying about earthquakes or hurricanes … It’s the sort of thing where a terrible incident could be catastrophic, and that’s something that you worry about. However, there are lots of other fires to put out every day.

Comments like these also illuminate another aspect of our findings: that the most common security measure mentioned by participants was meeting in person. When contrasted with the opacity and uncertainty of technological systems, meeting face-to-face offers clarity and assurance.

This tendency to rely on security strategies that are well understood was underscored by one participant who shared that where salient explanations for security measures were provided, they were well-accepted and understood:

> There's many ways to roll out security tweaks, and doing them where you make a clear and lucid case for what you're doing and why—there was just no pushback whatsoever. Everyone was just like, "Okay, great. We'll do that."

### "Good enough" is good enough

Particularly in complex or ill-defined subject areas, such as information security, it is typical for individuals to build mental models around simple explanations that capture the features of a system or situation that are most readily apparent (Feltovich et al, 1996). While these models can be useful insofar as they provide initial support for reasoning about complex situations, they can also hinder more complete understandings (Feltovich et al, 1996). Once established, moreover, a given mental model is rarely amended. Instead, contradictory evidence is either dismissed or interpreted in such a way that is congruent with the existing mental model.

It is possible, then, to appreciate journalists' "security by obscurity" mental model as a way to reason about information security risk that is congruent with the most salient and accessible features of high-profile security incidents. For example, while there have been repeated reports of aggressive leak investigations by the SEC (Coronel, 2014; Hurtado, 2016) most recent leak prosecutions were related to national security reporting (e.g. Jeffrey Sterling and Stephen Jin-Woo Kim). Moreover, such cases are often reported on in great detail. By contrast, only rarely do news organizations share details of technical or spearphishing attacks, making such events far less memorable. For most journalists, then, there is a naturally dominant association between national security and other "sensitive" beats and security risk, despite the greater frequency and, arguably, greater threat, posed by simple phishing campaigns, for example.

## Conclusions

By employing a mental models framework to journalists' information security attitudes and behaviors, we identify an approach to information security risk that can best be described as "security by obscurity": the belief that journalists do not need to concern themselves with information security unless they are working on topics of perceived interest to nation-state actors. Although this model is a demonstrably poor fit for the actual security risk faced by our participants (who are all part of well-recognized media organizations), this "security by obscurity" model may persist because it is congruent with the most high-profile security incidents in recent years, and because journalists have poor systems models of digital communications technology.

At the same time, given that one's actual security risk is more likely to be related to one's work as a journalist no matter the capacity, the question remains of how journalists' mental models of information security risk can be updated to reflect their actual threat landscape. Based on our findings, we recommend further study with a focus on developing training modules and educational interventions designed to improve journalists' systems models of digital communications and understanding of threats.

## References

Anderson, R. (2001). Why information security is hard: An economic perspective. *Proceedings of the 17th Annual Computer Security Applications Conference*. 358 doi: http://dl.acm.org/citation.cfm?id=872016.872155

Associated Press (2013, April 23). Hackers compromise AP Twitter account. *Associated Press*. Retrieved from http://bigstory.ap.org/article/hackers-compromise-ap-twitter-account

Blake, A. (2013, April 23). AP Twitter account hacked; hacker tweets of ‘explosions in the White House’. *The Washington Post*. Retrieved from https://www.washingtonpost.com/news/post-politics/wp/2013/ 04/23/ap-twitter-account-hacked-hacker-tweets-of-explosions -in-the-white-house/

Brandom, R. (2014, September 19). Google’s doubleclick ad servers exposed millions of computers to malware. *The Verge*. Retrieved from http://www.theverge.com/2014/9/19/6537511/google-ad-network-exposed-millions-of-computers-to-malware

Brandt, D. S., & Uden, L. (2003, July). Insight into the mental models of novice Internet searchers. *Communciations of the ACM* (7). 133-136.

Brinkema, J. L. (2011). U.S. v. Sterling, Fourth Circuit. Retrieved from http://www.documentcloud.org/documents/229733-judge-leonie-brinkemas-ruling-quashing-subpoena.html

Caine, K. E. (2009). Supporting privacy by preventing misclosure. *Extended abstracts of the ACM conference on human factors in computing systems*. (Doctoral Consortium).

Coronel, S. S. (2014, August 13). SEC aggressively investigates media leaks. *Columbia Journalism Review*. Retrieved from http://www.cjr.org/the_kicker/sec_investigation_media_leaks_reuters.php

Cox, J. (2015, October 13). Malvertising hits ‘The Daily Mail,’ one of the biggest news sites on the Web. *Motherboard*. Retrieved from http://motherboard.vice.com/read/malvertising-hits-the-daily-mail-one-of-the-biggest-news-sites-on-the-web

Currier, C. (2013, July 30). Charting Obama’s crackdown on national security leaks. *ProPublica*. Retrieved from https://www.propublica.org/special/sealing-loose-lips-charting-obamas-crackdown-on-national-security-leaks

Doyle. J. K. & Ford, D.N. (1998). Mental models concepts for system dynamics research. *System Dynamics Review*, 14. 3-29.

Feltovich, P. J., Spiro, R.J., Coulson, R.L. & Feltovich, J. (1996). Collaboration within and among minds: Mastering complexity, within and among groups. In T. Koschmann (Ed.) *CSCL: Theory and Practice of an Emerging Paradigm*. (pp. 27-34). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Festinger, L. (1962). Cognitive dissonance. *Scientific American, 207*(4), 93-107. doi: http://dx.doi.org/10.1038/scientificamerican1062-93

Gaston, G. & Gerjo, K. (1996). The theory of planned behavior: A review of its applications to health-related behaviors. *American Journal of Health Promotion, 11*(2), 87-98 doi: http://dx.doi.org/10.4278/0890-1171-11.2.87

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine Publishing Company.

Greenberg, A. (2014, February 20). How the Syrian electronic army hacked us: A detailed timeline. *Forbes*. Retrieved from http://www.forbes.com/ sites/andygreenberg/2014/02/20/how-the-syrian-electronic -army-hacked-us-a-detailed-timeline/

Greenberg, A. (2013, November 11). Vice.com hacked by Syrian Electronic Army. *SCMagazine*. Retrieved from http://www.scmagazine.com/vicecom-hacked-by -syrian-electronic-army/article/320466/

Greenwald, G. (2013, June 6). NSA collecting phone records of millions of Verizon customers daily. *The Guardian*. Retrieved from http://www.theguardian.com/world/2013/jun/06/nsa-phone-records-verizon-court-order

Greenwald, G. & MacAskill, E. (2013, June 7). NSA Prism program taps in to user data of Apple, Google and others. *The Guardian*. Retrieved from http://www.theguardian.com/world/2013/jun/06/us-tech-giants-nsa-data

Grisham, L. (2015, January 5). Timeline: North Korea and the Sony Pictures hack. *USA Today*. Retrieved from http://www.usatoday.com/story/news/nationnow/2014/12/18/sony-hack-timeline-interview-north-korea/ 20601645/

Gross, J. B., & Rosson, M. B. (2007). Looking for trouble: Understanding end-user security management. *Proceedings of the 2007 Symposium on Computer Human Interaction for the Management of Information Technology*. doi: 10.1145/1234772.1234786

Holmes, H., & McGregor, S. E. (2015, February 5). Making online chats really 'off the record'. *Tow Center*. Retrieved from http://towcenter.org/ making-online-chats-really-off-the-record/

Horowitz, S. (2013, May 13). Under sweeping subpoenas, Justice Department obtained AP phone records in leak investigation. *The Washington Post*. Retrieved from https://www.washingtonpost.com/world/national-security/under-sweeping-subpoenas-justice-department-obtained-ap-phone-records-in-leak-investigation/2013/05/13/11d1bb82-bc11-11e2-89c9-3be8095fe767_story.html

Hurtado, P. (2016, February 23). The London whale. *Bloomberg*. Retrieved from http://www.bloombergview.com/quicktake/the-london-whale

Kerr, J. C. (2013, June 19). AP president Pruitt accuses DOJ of rule violations in phone records case; source intimidation. *The Associated Press*. Retrieved from http://www.ap.org/Content/AP-In-The-News/2013/AP-President-Pruitt-accuses-DOJ-of-rule-violations-in-phone-records-case-source-intimidation

Kulwin, N. (2015). Encrypting your email: What is PGP? Why is it important? And how do I use it? *re/code*. Retrieved from: http://recode.net/2015/05/13/ encrypting-your-email-what-is-pgp-why-is-it-important-and -how-do-i-use-it/

Liptak, A. (2012, February 11). A high-tech war on leaks. *The New York Times*. Retrieved from: http://www.nytimes.com/2012/02/12/sunday-review/a-high-tech-war-on-leaks.html

Marimow, A.E. (2013, May 20). Justice Department's scrutiny of Fox News reporter James Rosen in leak case draws fire. *The Washington Post*. Retrieved from https://www.washingtonpost.com/local/justice-departments-scrutiny-of-fox-news-reporter-james-rosen-in-leak-case-draws-fire/2013/05/20/c6289eba-c162-11e2-8bd8-2788030e6b44_story.html

Marquis-Boire, M., & Huntley, S. (2014, March). Tomorrow's news is today's Intel: Journalists as targets and compromise vectors. *Black Hat Asia 2014*. Retrieved from https://www.blackhat.com/docs/asia-14/materials/Huntley/BH_Asia_2014_Boire_Huntley.pdf

Mass, P. (2015, May 11). CIA's Jeffrey Sterling sentenced to 42 months for leaking to New York Times journalist. *The Intercept*. Retrieved from https://theintercept.com/2015/05/11/sterling-sentenced-for-cia-leak-to-nyt/

Mattise, N. (2014, June 22). Syrian electronic army targets Reuters again but ad network provided the leak. *ArsTechnica*. Retrieved from http://arstechnica.com/ security/2014/06/syrian-electronic-army-targets-reuters -again-but-ad-network-provided-the-leak/

McGregor, S. (2013, May 15). AP phone records seizure reveals telecoms risks for journalists. *Columbia Journalism Review*. Retrieved from http://www.cjr.org/cloud_control/ap_phone_records_seizure_revea.php

McGregor, S. T. H., Charters, P. & Roesner, F. (2015). Investigating the security needs and practices of journalists. *Proceedings of the 24th USENIX Security Symposium*.

Mercuri, R. T. & Neumann, P. G. (2003) Security by obscurity. *Communications of the ACM*, 46(1).

Mirani, L. (2015, February 9). Millions of Facebook users have no idea they're using the Internet. *Quartz*. Retrieved from http://qz.com/333313/milliions-of-facebook-users-have-no-idea-theyre-using-the-internet/

Mitchell, A., Holcomb, J., & Purcell, K. (2015a, February). Investigative journalists and digital security: Perceptions of vulnerability and changes in behavior. *Pew Research Center*. Retrieved from http://www.journalism.org/files/2015/02/PJ_InvestigativeJournalists_0205152.pdf

Mitchell, A., Holcomb, J., & Purcell, K. (2015b, February). Journalist training and knowledge about digital security. *Pew Research Center*. Retrieved from http://www.journalism.org/2015/02/05/journalist-training-and-knowledge-about-digital-security/

Norman, D. A. (1983). Some observations on mental models. In A. L. Stevens & D. Gentner (Eds.), *Mental models* (pp. 7-14). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Oremus, W. (2013, April 23). Would you click the link in this email that apparently tricked the AP? *Slate*. Retrieved from http://www.slate.com/blogs/future_tense/2013/04/23/ap_twitter_hack_would_you_click_the_link_in_this _phishing_email.html

Perlroth, N. (2013, January 31). Hackers in China attacked The Times for last 4 months. *The New York Times*. Retrieved from http://www.nytimes.com/2013/ 01/31/technology/chinese-hackers-infiltrate-new-york-times-computers.html

Perlroth, N. (2013, July 12). Washington Post joins list of news media hacked by the Chinese. *The New York Times*. Retrieved from http://www.nytimes.com/2013/02/02/technology/washington-posts-joins-list-of-media-hacked-by-the-chinese.html?_r=0

Renaud, K., Volkamer, M., & Renkema-Padmos, A. (2014). Why doesn't Jane protect her privacy? *Proceedings of the 2014 Privacy Enhancing Technology Symposium*. (Amsterdam, Netherlands).

Rook, F. W., & Donnell, M. L. (1993). Human cognition and the expert system interface: Mental models and inference explanations. *IEEE Transactions on Systems, Man, and Cybernetics (6)*, 1649-1661.

Ruane, K. A. (2011). Journalists' privilege: Overview of the law and legislation in recent Congresses. *Congressional Research Service*.

Sasse, M. A., Brostoff, S., & Weirich, D. (2001). Transforming the 'weakest link': A human/computer interaction approach to usable and effective security. *B T Technology Journal, 19*(3), 122-131.

Savage, C. (2013, July 12). Holder tightens rules on getting reporters' data. *The New York Times*. Retrieved from http://www.nytimes.com/2013/07/13/us/holder-to-tighten-rules-for-obtaining-reporters-data.html

Shane, S. & Savage, C. (2012, June 19). Administration took accidental path to setting record for leak cases. *The New York Times.* Retrieved from http://www.nytimes.com/2012/06/20/us/politics/accidental-path-to-record-leak-cases-under-obama.html?_r=0

Staggers, N., & Norcio, A. F. (1993). Mental models: Concepts for human-computer interaction research. *International Journal of Man-Machine Studies 38*(4) 587-605. doi:10.1006/imms.1993.1028

Stevens, A. L., & Gentner, D. (1983). Introduction. In A. L. Stevens & D. Gentner (Eds.), *Mental models* (pp. 1-6). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Stuttard, D. (2005). Security & obscurity. *Network Security, 2005* (7), 10-12. doi:10.1016/S1353-4858(05)70259-2

Thatcher, A., & Greyling, M. (1998). Mental models of the Internet. *International Journal of Industrial Ergonomics, 22*(4-5), 299-305. doi:10.1016/S0169-8141(97)00081-4

Wagstaff, J. (2014, March 28). Journalists, media under attack from hackers: Google researchers. Reuters. Retrieved from http://www.reuters.com/article/us-media-cybercrime-idUSBREA2R0EU20140328

Wastlund, E., Angulo, J., & Fischer-Hubner, S. (2012). Evoking comprehensive mental models of anonymous credentials. *iNetSec 2011*, 1-14. doi: 10.1007/978-3-642-27585-2_1

Whitten, A., & Tygar, J. D. (1999). Why Johnny can't encrypt: A usability evaluation of PGP 5.0. *Proceedings of the 8th USENIX Security Symposium*.

Whitwam, R. (2016, January 10) Forbes forced readers to disable ad-blocking, then served them malware ads. *Geek.com*. Retrieved from http://www.geek.com/news/forbes-forced-readers-to-disable-ad-blocking-then-served-them-malware-ads-1644231/

***Susan E. McGregor** is assistant director of the Tow Center for Digital Journalism and assistant professor at Columbia Journalism School, where she helps supervise the dual-degree program in Journalism & Computer Science. She teaches primarily in areas of data journalism & information visualization, with a research interests in information security, knowledge management and alternative forms of digital distribution. McGregor was the Senior Programmer on the News Graphics team at the Wall Street Journal Online for four years before joining Columbia Journalism School in 2011. In 2012, McGregor received a Magic Grant from the Brown Institute for Media Innovation for her work on Dispatch, a mobile app for secure source communication. In June of 2014 she published the Tow/Knight report “Digital Security and Source Protection for Journalists,” which explores the legal and technical underpinnings of the challenges journalists face in protecting sources while using digital tools to report. In the fall of 2015, the National Science Foundation funded McGregor and collaborators Drs. Kelly Caine and Franzi Roesner to research and develop secure, usable communications tools for journalists and others. She conducts regular trainings with journalists and academics on practical strategies for protecting sources and research subjects.*

***Elizabeth Anne Watkins** is a maker, writer, and researcher interested in the future of collaborative, meaningful work in digital ecosystems. Using a mixed-methods approach, she stitches research in knowledge management and organizational behavior together with insights gleaned from innovative community practices in art-making and storytelling. Her written case studies have been published by Harvard Business School, where she also worked with startups at the Harvard Innovation Lab and the Berkman Center for Internet and Society. She studied video art at the University of California at Irvine and received a Master of Science degree in Art, Culture, and Technology at MIT. She’s currently pursuing a PhD in Communications at Columbia University in the city of New York, where she’s a Research Assistant affiliated with the Tow Center for Digital Journalism contributing to studies in information security.*

# Quieting the Commenters: The Spiral of Silence's Persistent Effect on Online News Forums

## *Hans K. Meyer and Burton Speakman*

*The Internet may help overcome the Spiral of Silence because posters can remain anonymous. Forum moderators could alleviate some concerns by imposing group norms, such as moderation, to ensure civility. Through a nationwide survey, this study focuses specifically on comments at the end of news stories to examine the impact journalists can have on the conversation. Despite online advantages, the study finds the spiral of silence persists, but journalists who noticeably moderate comments have an effect. The key to overcoming the spiral of silence is helping commenters feel part of a community with other forum participants.*

### Introduction

Only a small percentage of readers are willing to comment on news stories online (Chung & Nah, 2009; Larsson, 2011), but online comments represent one way a newsroom can fulfill its democratic mission. Online comments at the end of news stories can serve as a "forum for public criticism and compromise," that Kovach and Rosenstiel (2004, p. 6) call one of the essential elements of journalism. They can also help a newroom increase engagement and build audience as legacy media's audience is shrinking.

Newsrooms need to understand why people do not join conversations publically, and the Spiral of Silence may help. People are unwilling to comment publicly because they want to avoid the isolation their minority opinions can cause (Noelle-Neumann, 1993). A bandwagon effect occurs when one side of an issue is more aggressive and causes their opinion to surge in popularity (Noelle-Neumann, 1993). It does not matter if those who are more aggressive actually represent the majority of the population (Noelle-Neumann, 1993). Journalists will play an important role in applying the democractic principles of the Internet in order to decrease their readers' fears.

This study examines what elements a journalist can control to help overcome the spiral of silence and ensure that comments at the end of news stories create the public forum Kovach and Rosenstiel (2004) envisioned. Through a nationwide survey (N = 1,007) of Internet users that specifically asks them whether they comment at the end of news stories, the study measures participants' experience with the spiral of silence within these forums and then asks what, if anything, journalists can do to lessen its effects. It also looks at how some of online forum features, such as anonymity and civility, influence feelings of isolation and if news organizations' actions such as requiring real names, registration, or enforcing civility through active moderation make a difference. Beyond the theory, the study also describes, in part, what is needed to overcome a fear of isolation and bring audiences into a community.

## Literature Review

The climate of public opinion is based on who speaks (Noelle-Neumann, 1993). If one side voices its opinion loudly, the other side may assume it is in the minority and remain silent (Noelle-Neumann, 1993). People make decisions on how vocal they will be through guidance from their environment (Johnstone, 1974). Research has found that during group settings many people would conform to the majority, ignoring their personal perception (Jackson & Saltzstein, 1958).

The key driver is a fear of social isolation (Noelle-Neumann, 1993; Salmon & Oshagan, 1990; Shoemaker, Breen & Stamper, 2000). One of the key missions of community journalism is to bring people together (Lauterer, 2005). Journalism remains different from other forms of communication because it seeks to give people the information they need to be free and self-governing (Kovach & Rosenstiel, 2001), and encourages them to publicly comment to create compromise. Newspapers have always had ways for their audiences to talk back, usually through letters to the editor (Reader, 2005), but the Internet provides easier and more inclusive options. However, does the Spiral of Silence happen when the Web offers everyone a place to voice their opinion in relative safety? Furthermore, does a journalist's role change in creating an inclusive forum when so few people comment on online news stories?

### Spiral of Silence and the Internet

New media have forced scholars to re-evaluate theories that were created to explain issues within legacy media (Gearhart & Zhang, 2015). The Web has fundamentally changed how the public receives and interacts with information (Porten-Cheé & Eilders, 2015). Prior to the Internet, few opportunities existed for people to publicly state their opinions. Options such as calling a talk show or writing a letter to the editor carried the risk of offending, alienating, or angering people the commenter would see each day. Noelle-Neumann's theory was based on the limited choices in mass communication and their ability to influence a perceived majority opinion (Schulz & Roessler, 2012). Online, however, users are often led to information that conforms to their beliefs because algorithms chose news by what a person has previously viewed (Schulz & Roessler, 2012). Users focus on these sites and may avoid commenting on more mainstream locations (De Koster & Houtman, 2008).

To avoid condemnation, people look for sites that cater to their ideas because they feel isolated in other locations, both off and online (De Koster & Houtman, 2008). It is possible that those believe they face stigmatization in the offline world will feel more comfortable in online communities, where sites represent a “virtual refuge” (De Koster & Houtman, 2008). Finding other comments that agree with one’s opinion increases the likelihood of commenting, while finding posts that are hostile to one’s beliefs decreases that possibility (Gearhart & Zhang, 2015). Users also ignore posts inconsistent with their beliefs (Gearhart & Zhang, 2015).

Interpersonal connections also influence involvement in social media activity (Nekmat, Gower, Gonzenbach & Flanagin, 2015). People are motivated by how close they are to the message; comments from friends or family have more influence than those from people they do not know (Nekmat, Gower, Gonzenbach & Flanagin, 2015).

On the other hand, Porten-Cheé and Eilders (2015) found that online dissonance actually made members of the public more likely to speak about a topic. Familiarity and comfort within the online environment was the key determination of their willingness to comment online (Porten-Cheé & Eilders, 2015). In a similar vein, people who consider an issue important are more likely to comment despite others’ opinions (Ho, Chen & Sim, 2013). However, the bulk of Spiral of Silence research suggests that having a minority opinion remains the key detriment to online participation (Schulz & Roessler, 2012). People remain less likely to comment online if they believe their opinion is in the minority even if they can be anonymous online (Nekmat & Gonzenbach, 2013; Yun & Park, 2011). Even those with opinions in the majority are not more motivated to comment (Nekmat & Gonzenbach, 2013).

Online activity tends to be more about expressing an opinion and less about tangible action (Nekmat et al., 2015). People understand the difference between online and offline commentary and react accordingly (Schulz & Roessler, 2012). What happens online is limited to a small number of people unless traditional media notices what is being said (Schulz & Roessler, 2012). In addition, the permanence of online comments may discourage people from interacting (Nekmat & Gonzenbach, 2013). In the online context, the definition of Spiral of Silence cannot be based simply on the fear of isolation, because the relative anonymity of the Internet makes isolation outside of an individual website unlikely. For the purposes of this paper, the Spiral of Silence exists when someone fears a negative reaction that makes them less likely to comment at the end of online news stories (De Koster & Houtman, 2008; Nekmat & Gonzenbach, 2013; Porten-Cheé & Eilders, 2015; Schulz & Roessler, 2012).

**Building online communities through commenting**

How frequently people hear opinions can also effect the Spiral of Silence, and journalists play a pivotal role in the opinion dissemination online (Crawley, 2007). The more frequently people hear opinions against their own, the less likely they are to state their views (Eveland & Shah, 2003). The effect compounds over time with fewer people willing to make comments that represent minority positions (Eveland & Shah, 2003). Journalists need to make sure that a diversity of opinions are publicized. “News organizations act as a sentry, not for the community as a whole but for the dominant group[s] of power and influence” (Crawley, 2007, p. 320).

This is even more of a challenge considering the number of people who comment on online newspaper stories remains low (Weber, 2014). More diversity occurs as journalists encourage participation, and often, the best way to do that is to get involved (Meyer & Carey, 2014). In addition, people participate more in online conversations if the issue is salient to a smaller area, such as a city or a region in which they are involved (Weber, 2014). Those who feel a sense of belonging to a community are also more willing to comment (Jo & Kim, 2003; Meyer & Carey, 2014; Shah, McLeod & Yoon, 2001).

**Anonymity**

The concept of online community, however, seems contrary to the Spiral of Silence in its traditional form. A strong community with a majority opinion could lead to more isolation for those who do not share that opinion. Anonymity can also be a detriment to community. It is hard to connect with someone without knowing her name. But Borton (2013) found anonymity is a precursor to commenting on stories online. More than 80% of engagement-themed comments were posted on media websites anonymously (Borton, 2013). Isolation should not be as much of concern to Web users whose identities are unknown (Yun & Park, 2011). Along the same lines, making people identify themselves through some registration system decreased the number of people who commented (Borton, 2013). On the contrary, after South Korea passed a law banning anonymous online comments, the number of comments decreased, but the number of participants did not (Cho & Kim, 2012).

Uncivil comments devolve into name-calling and involve contempt and derision for another person's opinion (Santana, 2014; Coe, Kenski & Rains, 2014). When incivility becomes personal, particularly if it focuses on the traits of a person, the comments are less valuable to public discourse (Brooks & Geer, 2007). Online incivility influences how people think about and react to certain issues (Anderson, Brossard, Scheufele, Xenos, & Ladwig, 2014) because uncivil comments have a greater effect on a person's perception of unfamiliar issues (Anderson et al., 2014). Anonymous commenters are much more likely to be uncivil (Santana, 2014).

These varying definitions of incivility paint an inconsistent picture of how often it occurs in online comments (Coe, Kenski & Rains, 2014; Papacharissi, 2004). Journalists themselves seem unconcerned because they say they read comments, but they rarely reply (Meyer & Carey, 2014; Stroud, Curry, Scacco & Muddiman, 2014). The easiest way to combat incivility is for journalists to get involved (Meyer & Carey, 2014; Stroud, Curry, Scacco & Muddiman, 2014).

In addition, incivility may not have the discourse killing consequences many researchers predict. Uncivil comments resulted in arguments between posters and more comments (Brooks & Geer, 2007). Anonymity allows more people to comment, including those who would otherwise be silenced, which is more relevant to free speech than reading a few uncivil comments (McCluskey & Hmielowski, 2012; Papacharissi, 2004; Reader, 2012).

## Trust matters, credibility and commenting

Giving people the freedom to comment in the ways they want is also central to the trust news organizations are trying to establish with their audiences. Audiences judge newspapers on how connected to the community they are based on institutional reputation (Newhagen & Nass, 1989). Online people base their decision on content to determine credibility, not the medium itself (Flanagin & Metzger, 2000). Credibility for online readers will relate more to the publication, not any individual reporter (Newhagen & Nass, 1989).

In addition, the public tends to view media more favorably if they are familiar with it (Bucy, 2003; Flangin & Metzger, 2007). Readers are also more likely to engage in interactive functions, such as submitting a letter to the editor, or a news story tip, with a news organization they know well (Chung, 2008). This is not to say that individual reporters have no role in influencing the public's willingness to comment on online news stories. Having personal knowledge of the reporter does add personal credibility that works in combination with institutional credibility (Newhagen & Nass, 1989). Journalists who interact with the audience generate a greater sense of community and make people more willing to comment (Jo & Kim, 2003).

## Community and its impact on Spiral of Silence

Newspapers become indispensable when they relentlessly become part of the communities they serve (Lauterer, 2005). Community connection helps determine someone's willingness to comment because trust and cooperation take time to build (Jo & Kim, 2003 p. 214). Psychological attachment to a community also increases involvement (McLeod et. al., 1996). Those who have stronger ties to a community are more likely to be involved in sharing their opinion online (Cuba & Hummon, 1993; Sampson, 1988).

Building community means spending time in it. Residential stability, i.e. time spent living in a community, is a significant factor in creating community attachment (Sampson, 1988; Scheufele, Shanahan & Kim, 2002; Shah, McLeod & Yoon, 2001). Local ties and social networks account for more than 17% of the variance in someone's activity within the community (Scheufele, Shanahan & Kim, 2002). Those who have lived in the community longer are more likely to be knowledgeable about local issues, and knowledge impacts the willingness to comment (Scheufele, Shanahan & Kim, 2002). Any type of structural connection to the community seems to make people more likely to be involved and willing to share their opinion (McLeod et. al., 1996).

## The role of journalists

Journalists wanting to increase participation have to weigh the contrasting notions of anonymity and responsibility, but this is not an old problem. In one form or another, journalism has always worked to maintain its standing within its communities through establishing credibility (Meyer, 1988). The main reason journalists give for not allowing anonymity is their hope that real names lead to more civil discussions. Some publications have even removed comment sections, particularly for controversial stories (Santana, 2016).

However, merely seeing that a site is moderated makes readers more willing to comment because reciprocity is a necessary component for the creation of vibrant online communities (Lewis, Holton & Coddington, 2014). Seeing this active presence was the key determination as well for the creation of a sense of virtual community (Meyer & Carey, 2014).

However, the effectiveness of a journalist's moderation is limited if those who comment do not trust them (da Silva, 2015). Journalists may have a propensity to select comments based on their own editorial values, which could isolate some participants and reduce any feeling of community (Diakopoulos, 2015). However, overall consistent involvement from journalists does have the ability to create positive relationships and feeling of community involvement and thereby increase the possibility of commenting (Chung & Nah, 2009).

**Race**

Some aspects exist which journalists cannot control. Based on traditional Spiral of Silence considerations, demographic factors such as age, race, education, and income may also matter in terms of someone's willingness to comment on newspaper stories online. In general minorities are not engaged because they have negative feelings toward the media (Hackett & Carroll, 2006). Awad's (2011) study of the *San Jose Mercury News* showed that Latinos felt excluded from the publication because its reporters did not cover their community objectively.

Journalists who work to create engaged communities can mitigate racial effects. Community media, particularly publications aimed at minorities, are helping to create a more engaged and participatory culture (Deuze, 2006). Through computer technology community media can cultivate participation from minorities (Sabiescu, 2012). To be successful these efforts cannot be seen as coming from outside, but must be part of the minority community's vision and goals (Sabiescu, 2012).

Age is also a factor journalists must confront. Older people are more confident in their opinions and more connected to their communities (Cuba & Hummon, 1993; Scheufele, Shanahan & Kim, 2002; Shah, McLeod & Yoon, 2001). Those who are younger are less likely to be civically engaged (Scheufele, Shanahan & Kim, 2002; Shah, McLeod & Yoon, 2001). Those who are older and have higher incomes tend to be more involved in their communities (Scheufele, Shanahan & Kim, 2002). Age also influences both issue awareness and attitude strength (Scheufele, Shanahan & Kim, 2002).

But age, like all demographic factors, does not always override the motivation to comment. Individuals who would normally self-censor are willing to speak out about issues they believe are more important (Hayes, Glynn & Shanahan, 2005). Inherent knowledge of issue, involvement level in online forums, and availability of similar opinions are better determinants than age (Nekmat & Gonzenbach, 2013). Those who are more educated are more likely to comment (Ho, Chen & Sim, 2013; Nekmat & Gonzenbach, 2013).

Income could reduce the willingness to comment (Noelle-Neumann, 1993). Both income and education are related to a person's willingness to comment publically (Lasorsa, 1991). The poor are often excluded from communities, and their voices are ignored (Laderchi, Saith & Stewart, 2003). The larger the public, the more likely education, income, or race will be important to the Spiral of Silence (Noelle-Neumann, 1993).

## Hypotheses and Research Question

Previous research presents a wealth of way to predicte a Spiral of Silence effect, but have also offered differing opinions on how these predictors apply to online communication. They also offer mixed findings on the role that journalists' effort to overcome the fear of isolation have in the online realm. Therefore, the main research question this study seeks to answer is the following: What factors influence the Spiral of Silence as it relates to people's willingness to comment on online newspaper stories?

The expectation is that a person's motivation and sense of community will be a significant factor in their willingness to comment on online newspaper articles. Commenters are typically motivated to participate through a combination of social and interactive reasons (Springer, Engelmann & Pfaffinger, 2014). Speakman's (2015) study indicated that motivational factors were more influential than demographics. Furthermore, Meyer and Carey (2014) found that creation of a virtual community online was the primary predictor for someone's willingness to comment online. "Even when participants noticed that online comment forums are characterized by rude or poorly written comments, they were still more likely to participate if they felt a sense of virtual community," (Meyer & Carey, 2014 p. 223). Therefore, the study explores the following hypothesis:

**H1: A belief that commenting helps to create a sense of community will have a direct and positive effect on perceived Spiral of Silence.**

Anonymity is important to consider in this study because anonymous comments are common. Creating a registration requirement might remove some uncivil comments, but the audience is unconcerned (Reader, 2012). Those who do not comment are often much more against registering on a site than those who do (Springer, Engelmann, & Pfaffinger, 2014). Audiences believe anonymity leads to more comments (Springer, Engelmann & Pfaffinger, 2014), and studies have suggested that eliminating anonymous commenting leads to fewer people willing to comment, (Borton, 2013; Reader, 2012). Therefore, the study explores the following hypothesis:

**H2: Procedures to eliminate anonymous commenting will have a direct and negative effect on perceived Spiral of Silence.**

This study also considers credibility to be a motivating factor. As Bucy (2003) noted, the public believes publications they are familiar with are more credible. Credibility to some degree is formed by social relationships (Metzger, Flanagin & Medders, 2010). Group thinking is also a factor if someone trusts a publication (Metzger, Flanagin & Medders, 2010). In a similar vein, social networks are significant for both institutional participation and participation in public forums (McLeod, Scheufele & Moy, 1999). Therefore, the study explores the following hypothesis:

**H3: Whether someone considers a publication to be credible will have a direct and positive impact on perceived Spiral of Silence.**

As people live in a community for a long time they develop an attachment to the area, and are more willing to be involved in within it (Jo & Kim, 2003; McLeod et. al., 1996). In addition, those who have resided within an area for an extended period of time are more likely to have social interactions developing a level of community attachment that would motive them to speak out when they consider an issue salient (Cuba & Hummon, 1993; Sampson, 1988; Scheufele, Shanahan, & Kim, 2002; Shah, McLeod & Yoon, 2001). Those with stronger ties to the community and who feel more connected to the community will be more motivated and more likely to make a public comment. Therefore, the study explores the following hypothesis:

**H4: Residency will have a direct and positive influence on perceived Spiral of Silence.**

The role of demographics in the perceived Spiral of Silence effect online remains debated. Any factor that makes someone feel separated or isolated such as income, education or race will reduce their willingness to publically comment on issues (Noelle-Neumann, 1993). However, Johnson and Kaye (2002) found that age, education, and income were not relevant if someone found online newspaper content credibile. Furthermore, demographic variables did not matter when Web reliance and motivational factors were more significant (Johnson & Kaye, 2002). Therefore, the study asks the following research question:

**RQ1. Will demographic factors such as race, age, income, and education have an influence on perceived Spiral of Silence?**

## Methods

Rather than looking at individual forums, the study relied on a nationwide panel to find a wide range of views. The researchers created an online survey administered by ClearVoiceSurveys.com, which has more than 540,000 panelists across the United States. The researchers paid $4 for each response. The invitations began in November 2012 and were completed in less than week.

The panelists who are part of ClearVoiceSurveys.com represent a wide variety of ages, incomes, education levels and races. They generally respond at a 20% rate because they are given a small cash reward (between $1 and $3) for completing a survey. For this particular study, ClearVoice invited panelists to participate until the researchers had received more than 1,000 completed responses. The number of panelists who turned down the study was not reported, so a response rate is not available. The invitations to panel members were based on U.S. census proportions of men and women and race. More than 63% of respondents were Caucasian, while 13% identified as Black or African American. More than 16% identified as Hispanic or Latino while 5% identified as Asian. The number of panelists who turned down the invitation was not available. Panel studies have become the preeminent method for sampling large groups as telephone and mail surveys have become increasingly difficult to conduct and they have consistently been reliable in generating generalizable samples (Halaby, 2004).

In total, 500 men and 507 women responded. Ages ranged from 18 to 67 with a mean age of 38.7. Participants had lived in their current home from one to 42 years, with a mean of 15.1 years. Median income level was $25,000 to $50,000 annually (28% of the sample) while another 24% earned between $50,000 and $75,000. Roughly 16% of the sample reported annual yearly income at less than $25,000, while the same percentage reported making between $75,000 and $100,000. Another 16% had income levels higher than $100,000 annually.

Median education level was a college degree (32%), while 27% reported some college and 24% had a high school degree only. Roughly 14% reported having an advanced degree (Master's, Ph.D. or J.D.).

The study asked participants to estimate how often they post comments at the end of news stories on a continuous scale of never (1) to very often (5). The mean score for participation was 2.72 with an SD of 1.20. The largest percentage of respondents (31%) said they sometimes posted while 26% posted rarely, 16% posted often, and 9% posted very often. More than 18% of respondents said they never posted comments at the end of news stories.

The main dependent variable for this study was a perceived Spiral of Silence effect, which the researchers operationalized through four questions that asked how likely participants were to respond with a comment if the story's point of view conflicts with theirs, most of the other comments conflict with their point of view, they do not feel strongly about the topic the story addresses, and if other comments have taken an aggressive tone. These question factored together with a Cronbach's alpha of .853. Tavakol and Dennick (2011) report that alpha values between .7 and .9 represent acceptable values for assesing whether separate variables work together to measure the same concept.

The key factors the literature suggests that affect spiral of silence are anonymity, civility, and the actions of moderators—in this case journalists—to make the conversation more open. The researchers operationalized anonymity in two ways: how important it was that participants used their real names, and what impact requiring participants to register and use real names to post comments have. These two measures correlated at .653 and were summed and averaged as one variable.

Journalists may also have an effect on a perceived spiral of silence if they maintain an active moderating presence in forums. The study asked if participants had noticed active moderation in a newspaper comments section and how important it was for them to see it.

To operationalize engagement, the study asked respondents to rate their level of agreement with how being able to comment at the end of news stories (1) gave them a more positive attitude toward the news organization, (2) helps them trust the organization more, (3) makes them believe the story a bit more, (4) suggests the news organization cares about its audience, and (5) makes them think about connection with other people in the community. All five questions were averaged into one variable with a Cronbach's alpha of .898.

Finally, the study measured the impact of commenting on community by asking respondents if they are likely to comment at the end of the news story if (1) the news story contributes to a sense of community, (2) the person who wrote the story creates a sense of community, and (3) the organization behind the story helps create community. All three questions were averaged into one variable with a Cronbach's alpha of .934.

## Results

The goal of the study is to build a model describing the effects of the Spiral of Silence in an online forum. The study focused on the comments at the end of online news stories because journalism has a mandate to build community and journalists' actions can lessen the effects of the Spiral of Silence.

**H1** examined whether the feeling of community affected perceived Spiral of Silence. An ANOVA that transformed the self-reported Spiral of Silence variable into low, moderate, and high groups and compared each group's mean score on commnity creation showed strong statististical significance ($F$ = 362.01, $df$ = 2, $p$ < .01). Significant differences were found for each group: low SoS effects ($n$ = 378, $M$ = 2.55), moderate ($n$ = 443, $M$ = 3.42) and high ($n$ = 199, M = 4.23) at the $p$ < .01 level. **H1** was supported because feelings that comments created community had a direct positive effect on perceived Spiral of Silence.

**H2** hypothesized that procedures journalists take to eliminate anonymity have have a direct negative effect on perceived Spiral of Silence. To test this hypothesis, a one-way ANOVA using the SoS groups as the factor and procedures to eliminate anonymity as the DV was statistically significant ($F$ = 235.06, df = 2, $p$ < .01) across all groups, with low ($n$ = 378, $M$ = 2.015), moderate ($n$ = 443, $M$ = 2.93) and high ($n$ = 199, $M$ = 3.82) all significant at the $p$ < .01 level. **H2** was supported.

**H3** examined whether participants reported allowing comments at the end of stories enchanced the crediblity of the story and the news organization. A one-way ANOVA using the SoS groups as the factor and credibility as the DV found statistical significance across all groups ($F$ = 175.66, $df$ = 2, $p$ < .01), with low ($n$ = 378, $M$ = 3.0198), moderate ($n$ = 443, $M$ = 3.5350), and high ($n$ = 199, $M$ = 4.2186) all siginificant at the $p$ < .01 level. **H3** was supported.

**H4** examined the effect of residenct on perceived Spiral of Silence, but an ANOVA using the SoS group as the factor and the number of years a person had lived in his or her home as the DV, failed to find statistical significance overall ($F$ = 2.94, $df$ = 2, p > .05). Mean scores failed to shed light on why **H4** was not supported as the low ($n$ = 371, $M$ = 15.30) and moderate ($n$ = 432, $M$ = 15.80) group had almost identical mean scores, while the high group ($n$ = 198, $M$ = 12.96) reported they had lived in the area three years less.

To determine the overall effect of community, anonymity, credibility and residency along with demographics, and the importance of and noticing moderation, the researchers built a hierarchical linear regression model to predict perceived Spiral of Silence. The first step contained demographic variables including age, education, income, race, gender, and residency, while the second represented the participants' attitudes toward commenting. The final step contained all that a journalist can do to lessen the spiral of silence and encourage commenting, such as eliminate anonymity, create credibility and foster community.

**Table 1.**
**Hierarchical Linear Regression predicting the how participants experience the spiral of silence in comment forums at the end of news stories**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variable | B | β | B | β | B | β |
| *Step 1: Demographics* | | | | | | |
| Age | -.016 | -.219** | -.015 | -.207** | -.006 | -.086** |
| Income | .042 | .064 | .043 | .067 | .025 | .038 |
| Education | .044 | .047 | .014 | .015 | .002 | .002 |
| Race (white / non-white) | .183 | .087** | .193 | .091** | .065 | .031 |
| Gender (female or not) | .001 | .000 | -.035 | -.017 | -.057 | -.028 |
| Residency | .004 | .052 | .004 | .049 | .002 | .028 |
| *Step 2: Personal views* | | | | | | |
| Anonymity Importance | | | .048 | .063* | -.071 | -.093** |
| Moderation Importance | | | .221 | .236** | -.020 | -.021 |
| Forum civility | | | -.036 | -.039 | -.021 | -.022 |
| *Step 3: Journalist's control* | | | | | | |
| Notice Moderation | | | | | .052 | .050* |
| Ways to eliminate anonymity | | | | | .266 | .307** |
| Credibility through comments | | | | | .155 | .130** |
| Community through comments | | | | | .524 | .494** |
| $R^2$ | | .056 | | .111 | | .683 |
| $R^2$ Change | | .062 | | .057 | | .567 |

*Note.* * p < .05, ** p < .01

The key predictors in this model, which accounted for more than 68% of the variance in perceived Spiral of Silence, and also mediated some of the effects of demographic and attitude issues in the first and second steps, were community, taking steps to eliminate anonymity, and credibility. Age remained a siginificant predictor in the final step while anonymity importance was a significant negative predictor. In other words, the more journalists sought to control the comment forum at the end of news stories through requiring registration, eliminating anonymity and enforcing community rules and credibility, the more perceived Spiral of Silence participants reported. This model suggests that to encourage people to overcome a fear of isolation, journalists do not necessarily need to be involved. In fact, the more likely people were to want comments to create community and enhance credibility, the more likely they were to report experiencing a spiral of silence effect.

The researchers created a second model with only the significant predictors to help determine what would encourage those who read news stories online to submit comments. Perceived Spiral of Silence was the first step, followed by attitudes and elements within a journalist's control in the second step. The final step contained the two strongest predictors of perceived Spiral of Silence, community and credibility.

**Table 2.**
**Hierarchical Linear Regression predicting the effect of spiral of silence on whether participants contribute to comment forums at the end of news stories and the mediating effects of elements within a journalist's control**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variable | B | β | B | β | B | β |
| *Step 1: Spiral of Silence* | .501 | .619** | .371 | .458** | .351 | .434** |
| *Step 2: Journalist's Control* | | | | | | |
| Anonymity Importance | | | -.024 | -.040 | -.024 | -.040 |
| Procedures to eliminate anonymity | | | .109 | .158** | .106 | .154** |
| Notice Moderation | | | .129 | .157** | .127 | .156** |
| Moderation Importance | | | .014 | .019 | .008 | .011 |
| Forum civility | | | -.013 | -.018 | -.014 | -.019 |
| *Step 3: Community / Credibility* | | | | | | |
| Community through comments | | | | | .074 | .078* |
| Credibility through comments | | | | | -.017 | -.020 |
| $R^2$ | | .382 | | .416 | | .418 |
| $R^2$ Change | | .382 | | .034 | | .002 |

In a model that accounted for nearly 42% of the variance in how frequently someone said they contributed comments at the end of news stories, perceived Spiral of Silence was the key predictor accounting for 38% of the variance by itself. Efforts to mediate that made a difference were whether participants noticed moderation and what procedures the news organization took to eliminate anonymity. Credibility was not a significant predictor while community predicted only at the $p < .05$ level.

## Discussion

Through a nationwide survey of online users with a specific focus on those who comment at the end of news stories, this study examined Spiral of Silence theory in the Internet age. Just as certain online features, such as the ability to comment anonymously and to easily connect with people all over the world, had the potential to lessen perceived spiral's effects, the enforcement of group norms, such as requiring real names or actively maintaining a moderating presence, reinforced the isolation inherent in the theory. Overall, the study found direct positive effects for community, credibility and procedures to eliminate anonymity on perceived Spiral of Silence. In other words, as respondents feel more strongly that comments at the end of news stories exist to enhance a feeling of community, imbue news stories and organizations with credibilty, and that journalists need to take steps to remove anonymity, such as require real names or registration to post, they also experience stronger feelings of isolation from the site.

The model suggests several solutions for journalists interested in creating community online and the first might be the simplest. Young people report they experience less spiral of silence effects than older respondents, so journalists need to find ways to get them more involved. The online comment section could be the ideal place as young people are also more likely to be comfortable online. They need the guidance an involved journalist can offer.

The challenge with the model predicting reported Spiral of Silence is that it seems to put journalists in a no-win situation. If they want to lessen the effects of the spiral and encourage participation and meet their mandate to foster community and create a forum for public criticism and compromise, they need to loosen their control. They need to allow anonymity and look for those for whom crediblity and community are less important. This may mean, in fact, that the seemingly unrelated and unedited comments that many news stories receive are good ways to encourage people to join online conversations.

This model, it must be remembered predicted only the extent that respondents reported they experienced a Spiral of Silence effect. When predicting how frequently that respondents said they participated in comments at the end of news stories, community remained an important factor, although not as important as their reported Spiral of Silence. The strongest predictor in this model that added about 3% to the variance predicted was whether respondents noticed moderation in online news story comment forums. Respondents still had to overcome the fear of isolation the Spiral of Silence explains, but noticing a journalist supported them made a big difference, even when that journalist was taking steps to eliminate anonymity.

What this means for journalists is using comments at the end of their stories to overcoming fear of isolation and building forums for public criticism and compromise will not be easy. The first and easist step is having a noticeable presence in those forums. More journalists need to read they comments their stories receive (Meyer & Carey, 2014) and find positive ways to interact with commenters. They cannot make commenters feel like they are the ones responsible for giving the story with believability and meaning.

Commenters should feel free to say what they want, within reason, whether it is directly related to the topic of the story or not.

This study also suggests that anonymity plays a somewhat contradictory role in perceived Spiral of Silence and a person's willingness to post a comment at the end of a news story. The strong negative beta in the participation model suggests that the more important people find anonymity, the less frequently they post comments. However, the steps journalists take to eliminate anonymity were a strong positive predictor of participation, suggesting that those who comment the most frequently want to see people use real names and do not mind registering. When dealing with these two seemingly diametrically opposed views, journalists have to be careful. Their procedures to eliminate anonymity cannot seem to take anything away from those who value it. Clear but simple rules are needed, such as having to use a real name or a Facebook account, but journalists should not take these rules too far such as limiting the number of accounts a person can have or limiting the frequency with which she can comment.

This study suggests that some of the former determinants in the traditional definition of the Spiral of Silence have lost their impact. The length of time someone had lived in a commmunity was neither a predictor in the regression model or in a one-way ANOVA by itself. The Internet has fostered a worldwide community where the place one resides makes less difference than it once did. The nationwide, racially diverse panel the study used suggests that the effects of race and gender have decreased as well. The Internet has opened more opportunities for minorities and women to be heard. The ubiquity of the Internet, which most people now have in the palm of their hand through their smartphones, may have also overcome some of the effects of income and education.

The study is limited in its ability to examine specifics. While the nationwide sample the study used allowed it to tell a more comprehensive picture than studies that focused on a particular news site, it also presented some challenges with how respondents defined concepts. The researchers, for example, asked respondents to think about comments at the end of stories on a newspaper website but did not define the parameters any further. Respondents could consider biased forums, such as Daily Kos, Instapundit, or the Drudge Report, as newspaper sites. Those who visit sites like these typically have strong opinions they are willing to share. They also have a like-minded community in which to share them. These people could have experience less Spiral of Silence, but the researchers have no way of knowing.

Other definition challenges remain in the survey. All of the measures in the study are self reports. The researchers have no way of verifying, for example, how frequently respondents actually commented at the end of news sites. In fact, the percentages in this study seem higher than similar studies that focused on individual sites. Future research could take a case study approach, pairing this study's nationwide sample, with specific examples and observations of news comment use in people's homes. A content analysis of the comments themselves could suggest ways in which incivility is manifest, but it would be difficult to study those who do not comment that way. Other research could interview some of the survey respondents in depth to see more clearly what their motivations are for commenting and how the Spiral of Silence operates in an online enviroment.

## Conclusions

Despite its limitations, this study makes a significant contribution to understanding the effects of the Spiral of Silence on online communities and on how journalists can use online communities to fulfill their mission to provide public forums. It adds nuance to the effect of anonymity and procedures to eliminate it, and suggests that anonymity may not be the best way to overcome Spiral of Silence effects. It underscores the need for journalists to get involved in comment forums and understand their audiences better to know when to push and when to back off in encouraging their participation. In the end, the study suggests that the Spiral of Silence persists in online comment forums. In fact, it may be an artifact of human nature that will always exist, no matter the communication platform or technology used. However, the Internet and journalists working with audiences online can make a difference in at least encouaging a few more people to overcome the isolation and participate in a forum for public criticism and compromise.

## References

Anderson, A., Brossard, D., Scheufele, D., Xenos, M. & Ladwig, P. (2014). The “nasty effect:” Online incivility and risk perceptions of emerging technologies. *Journal of Computer-Mediated Communication, 19*(3), 373-387.

Arpan, L. M. (2009). The effects of exemplification on perceptions of news credibility. *Mass Communication & Society. 12*(3), 249-270.

Awad, I. (2011). Latinas/os and the mainstream press: The exclusions of professional diversity. *Journalism, 12*(5), 515-532.

Borton, B. (2013). *What can reader comments to news online contribute to engagement and interactivity? A quantitative approach.* Retrieved from University of South Carolina Scholar Commons: http://scholarcommons.sc.edu/cgi/viewcontent.cgi?article=3346&context=etd

Brooks, D.J. & Geer, J. (2007). Beyond negativity: The effects of incivility on the electorate. *American Journal of Political Science, 51*(1), 1-16.

Bucy, E. P. (2003). Media credibility reconsidered: Synergy effects between on-air and online news. *Journalism & Mass Communication Quarterly, 88*(2): 247-264.

Cho, D. & Kim, S. (2012). *Empirical analysis of online anonymity and user behaviors: The impact of real name policy.* Paper presented at the 45th Hawaii International Conference on System Sciences. 3041-3050.

Chung, D. S. (2008). Interactive features of online newspapers: Identifying patterns and predicting use of engaged readers. *Journal of Computer-Mediated Communication, 13*, 658-679

Chung, D. & Nah, S. (2009). The effects of interactive news presentation on perceived user satisfaction of online community newspapers. *Journal of Computer-Mediated Communication, 14*, 855–874.

Coe, K., Kenski, K. & Rains, S. (2014). Online and uncivil? Patterns and determinants of incivility in newspaper website comments. *Journal of Communication, 64*(4), 658-679.

Crawley, C. (2007). Localized debates of agricultural biotechnology in community newspapers: A quantitative content analysis of media frames and sources. *Science Communication, 28*(3), 314-346.

Cuba, L. & Hummon, D. M. (1993). A place to call home: Identification with dwelling, community, and region. *The Sociological Quarterly, 34*(1): 111-131.

Dalisay, F. (2012). The spiral of silence and conflict avoidance: Examining antecedents of opinion expression concerning the U.S. military buildup in the Pacific island of Guam. *Communication Quarterly, 60*(4), 481-503.

da Silva, M. T. (2015). What do users have to say about online news comments? Readers’ accounts and expectations of public debate and online moderation: A case study. *Participations Journal of Audience & Perception Studies, 12*(2), 32-44.

De Koster, W. & Houtman, D. (2008). Stormfront is like a second home to me. *Information, Communication & Society, 11*(8), 1155-1176, doi:10.1080/13691180802266665

Deuze, M. (2006). Ethnic media, community media and participatory culture. *Journalism, 7*(3), 262-280.

Diakopoulos, N. (2015). Picking the NYT picks: Editorial criteria and automation. Editor's Note. *International Symposium on Online Journalism, 5*(1) 147.

Eveland Jr., W. P. & Shah, D. V. (2003). The impact of individual and interpersonal factors on perceived news media bias. *Political Psychology, 24*(1), 101-117.

Flangin, A. J. & Metzger, M. J. (2000). Perceptions of Internet information credibility. *Journalism & Mass Communication Quarterly, 77*(3): 515-540.

Flangin, A. J. & Metzger, M. J. (2007). The role of site features, user attributes, and information verification behaviors on the perceived credibility of Web-based information. *New Media & Society, 9*(2): 319-342.

Gearhart, S. & Zhang, W. (2015). "Was it something I said?" "No, it was something you posted!" A study of the Spiral of Silence theory in social media contexts. *Cyberpsychology, Behavior, and Social Networking, 18*(4), 208-213.

Hackett, R. & Carroll, W. (2006). *Remaking media: The struggle to democratize public communication*. CITY, STATE: Routledge.

Halaby, C. N.. (2004). Panel models in sociological research: Theory into practice. *Annual Review of Sociology, 30*, 507–544. Retrieved from http://www.jstor.org/stable/29737704

Hayes, A. F., Glynn, C.J. & Shanahan, J. (2005). Validating the willingness to self-censor scale: Individual differences in the effect of the climate of opinion on Opinion Express, *International Journal of Public Opinion Research, 17*(4), 443-455.

Ho, S. S., Chen, V. H. H. & Sim, C. C. (2013). The Spiral of Silence: Examining how cultural predispositions, news attention, and opinion congruency relate to opinion expression. *Asian Journal of Communication, 23*(2), 113-134.

Jackson, J. M. & Saltzstein, H. D. (1958). The effect of person-group relationships on conformity processes. *The Journal Of Abnormal And Social Psychology, 57*(1), 17-24.

Jeffres, L., Jian, G. & Atkin, D. (2009). Voicing complaints in the public arena. *Ohio Communication Journal, 47*, 97-112.

Jo, S. & Kim, Y. (2003). The effect of Web characteristics on relationship building. *Journal of Public Relations Research, 15*(3): 199-223.

Johnson, T. J. & Kaye, B. K. (2002). Webelievability: A path model examining how convenience and reliance predict online credibility. *Journalism & Mass Communication Quarterly, 79*(3): 619-642.

Johnstone, J. (1974). Social integration and mass media use among adolescents: A case study. In J. Blumler, & E. Katz (Eds.), *The uses of mass communication* (pp. 35-48). Beverly Hills, CA: Sage Publications.

Laderchi, C., Saith, R. & Stewart, F. (2003). Does it matter that we do not agree on the definition of poverty? A comparison of four approaches. *Oxford Development Studies, 31*(3), 243-274.

Larsson, A. (2011). Interactive to me—Interactive to you? A study of use and appreciation of interactivity on Swedish newspaper websites. New Media & Society, 13(7), 1180-1197.

Lasorsa, D. L. (1991). Political outspokenness: Factors working against the Spiral of Silence. *Journalism Quarterly, 68*(1/2), 131-140.

Lauterer, J. (2005). *Community journalism, relentlessly local*. Chapel Hill, NC: University of North Carolina Press.

Lee, H., Oshita, T., Oh, H. & Hove, T. (2014). When do people speak out? Integrating the Spiral of Silence and the Situational Theory of Problem Solving. *Journal of Public Relations Research, 26*(3), 185-199.

Lewis, S. C., Holton, A. E., & Coddington, M. (2014). Reciprocal journalism: A concept of mutual exchange between journalists and audiences. *Journalism Practice, 8*(2), 229-241.

Lin, C., & Salwen, M. (1997). Predicting the Spiral of Silence on a controversial public issue. *Howard Journal of Communications, 8*(1), 129-141.

McLeod, J. M., Daily, K., Guo, Z., Eveland, W. P., Bayer, J., Yang, S. & Wang, H. (1996). Community integration, local media use, and democratic processes. *Communication Research, 23*(2), 179-209.

McLeod, J. M., Scheufele, D.A., Moy, P. (1999). Community, communication, and participation: The role of mass media and interpersonal discussion in local political participation. *Political Communication, 16*(3): 315-336

McCluskey, M. & Hmielowski, J. (2012). Opinion expression during social conflict: Comparing online reader comments and letters to the editor. *Journalism, 13*(3), 303-319.

Metzger, M. J., Flanagin, A. J. & Medders, R. B. (2010). Social and heuristic approaches to credibility evaluation online. *Journal of Communication, 60*, 413-439.

Meyer, H. K. & Carey, M. C. (2014). In moderation: Examining how journalists' attitudes toward online comments affect the creation of community. *Journalism Practice, 8*(2), 213-228.

Meyer, P. (1988). Defining and measuring credibility of newspapers: Developing an index. *Journalism & Mass Communication Quarterly, 65*(3), 567-574.

Nekmat, E. & Gonzenbach, W. J. (2013). Multiple opinion climates in online forums: Role of website source reference and within-forum opinion congruency. *Journalism & Mass Communication Quarterly. 90*(4), 736-756, doi: 10.1177/1077699013503162

Nekmat, E., Gower, K. K., Gonzenbach, W. J. & Flanagin, A. J. (2015) Source effects in the micro-mobilization of collective action via social media. *Information, Communication & Society, 18*(9), 1076-1091, doi: 10.1080/1369118X.2015.1018301

Newhagen, J. & Nass, C. (1989). Differential criteria for evaluating credibility of newspapers and TV news. *Journalism & Mass Communication Quarterly, 66*(2), 277.

Noelle-Neumann, E. (1993). *The Spiral of Silence: Public opinion—Our social skin* (Second ed.). Chicago, IL: University of Chicago Press.

Papacharissi, Z. (2004). Democracy online: Civility, politeness, and the democratic potential of online political discussion groups. *New Media & Society, 6*(2), 259-283.

Porten-Cheé, P. & Eilders, C. (2015). Spiral of silence online: How online communication affects opinion climate perception and opinion expression regarding the climate change debate. *Studies in Communication Sciences,15*(1), 143-150.

Reader, B. (2005). An ethical “blind spot”: Problems of anonymous letters to the editor. *Journal of Mass Media Ethics, 20*(1), 62-76.

Reader, B. (2012). Free press vs. free speech? The rhetoric of “civility” in regard to anonymous online comments. *Journalism & Mass Communication Quarterly, 89*(3), 495-513.

Rose, M. & Baumgartner, F. (2013). Framing the poor: Media coverage and U.S. poverty policy, 1960-2008. *The Policy Studies Journal, 41*(1), 22-53.

Sabiescu, A. (2012). Exploiting the intergenerational connection in community media initiatives for minority cultures: A case study. *The International Journal of Technology, Knowledge and Society, 7*(6), 1-18.

Salmon, C. & Oshagan, H. (1990). Community size perceptions of majority opinion, and opinion expression. *Public Relations Research Annual, 2*(1-4), 157-171.

Sampson, R. J. (1988). Local friendship ties and community attachment in mass society: A multilevel systemic model. *American Sociological Review, 53*(5): 776-779.

Santana, A. (2014). Virtuous or vitriolic: The effect of anonymity on civility in online newspaper reader comment boards. *Journalism Practice, 8*(1), 18-33.

Santana, A. (2016). Controlling the conversation: The availability of commenting forums in online newspapers. *Journalism Studies, 17*(2), 141-158.

Scheufele, D. A., Shanahan, J., & Kim, S. H. (2002). Who cares about local politics? Media influences on local political involvement, issue awareness, and attitude strength. *Journalism & Mass Communication Quarterly, 79*(2): 427-444.

Schulz, A. & Roessler, P. (2012). The Spiral of Silence and the Internet: Selection of online content and the perception of the public opinion climate in computer-mediated communication environments. *International Journal of Public Opinion Research, 24*(3), 346-367.

Shah, D. V., McLeod, J. M. & Yoon, S. H. (2001). Communication, context, and community: An exploration of print, broadcast, and Internet influences. *Communication Research, 28*(4): 464-506.

Shoemaker, P., Breen, M. & Stamper, M. (2000). Fear of social isolation: Testing an assumption from the Spiral of Silence. *Irish Communications Review, 8*, 65-78.

Speakman, B. (2015). Interactivity and political communication: New media tools and their impact on public political communication. *Journal of Media Critiques, 1*(1): 131-144.

Springer, N., Engelmann, I. & Pfaffinger, C. (2015). User comments: Motives and inhibitors to write and read. Information, *Communication & Society, 18*(7): 798-815.

Stroud, N., Curry, A., Scacco, J. & Muddiman, A. (2014). *Journalist involvement in comment sections*. Retrieved February 10, 2016, from Engaging News Project: http://engagingnewsproject.org/research/journalist-involvement/

Tavakol, M. & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53–55. http://doi.org/10.5116/ijme.4dfb.8dfd

Weber, P. (2014). Discussions in the comments section: Factors influencing participation and interactivity in online newspaper readers' comments. *New Media & Society, 16*(6): 941-957.

Yun, G. W. & Park, S. Y. (2011). Selective posting: Willingness to post a message online. *Journal of Computer-Mediated Communication, 16*, 201-227, doi:10.1111/j.1083-6101.2010.01533.x

***Hans K. Meyer** is an associate professor at the E. W. Scripps School of Journalism at Ohio University. His research focuses on how journalists adapt online to engage audiences and build community.*

***Burton Speakman** is a Ph.D. candidate at the E.W. Scripps School of Journalism at Ohio University. His published research explores how user-generated content can influence public perception and credibility.*

# Interactivity, Social Presence, and Journalistic Use of Twitter

*Jeremy Littau and Mi Rosie Jahng*

*This study explored the extent of journalists' use of Twitter in terms of interactivity and social cue using a content analysis of journalists' Twitter profiles (N = 555). Journalists with more personal and professional details on Twitter profiles were more likely to be highly interactive, a relationship that predicts higher perceptions of credibility based on past research. Results suggest the need for journalists to utilize interactivity more for increasing their impact on Twitter.*

## Introduction

Since Twitter emerged as a viable tool for reaching public audiences during the 2008 U.S. presidential campaign, journalists began to embrace forms of social media as another avenue of both communication and information gathering (Bunz, 2010; Parmelee, 2013; Uberti, 2014). Individual journalists initially adopted the medium on their own and they soon were followed by formal newsroom efforts that led to in-house training and hiring public engagement editors.

Jennifer Preston at *The New York Times*, the first social media editor at a major U.S. newspaper, was tasked with helping both model social media integration into reporting practice and to help guide reporters in best practices (Farhi, 2009; Kirkpatrick, 2009). Whereas practical how-to was part of newsroom training, less addressed was the issue of social presence—how much personal information can and should be shared in social media bios before it starts to blur the lines of play-it-straight journalistic objectivity norms (Lasorsa, 2012). Social media editors in newsrooms advocate that journalists use the tool for listening and responding to followers, a form of interactive engagement with news audiences (Posetti, 2009). But what of non-professional interaction in the form of personal disclosure?

Despite the formal newsroom efforts, studies show journalists have been slow to embrace interactivity on Twitter (Armstrong & Gao, 2010; Hermida, 2010). Interaction in the form of replying or publicly mentioning another user in response to a question is a way to publicly and interpersonally show users that the journalist is listening to feedback and questions, but the percentage of journalists actually engaging in this behavior has repeatedly been demonstrated as low, albeit possibly growing slowly (Hermida, 2010;

Lasorsa, Lewis, & Holton, 2012). This low-engagement behavior presents professional problems. Recent findings show that interaction on Twitter actually is a factor in how people assess the credibility of journalists on Twitter and negates traditional problems in credibility assessment, such as gender disparities, found on other news platforms (Jahng & Littau, 2016). In a global, interconnected medium such as Twitter, users often are subjected to information from unknown sources in the form of retweets, and they rely on both heuristic and informational cues in order to determine whether the information source is credible. For example, the Twitter user profile can provide either professional or personal information (known as “social cue”) that allows users to make quick judgments about a reporter’s background in an attempt to decide whether to trust information coming from that source. Lack of interactivity on social media can particularly be an issue with practical consequences.

Past research has examined journalistic use of Twitter from both an institutional point of view and at the reporter level, examining interaction and using social media posts for personal sharing (Boyle & Zuegner, 2012; Canter, 2015; Lasorsa, 2012; Molyneux, 2014). One of the unanswered questions from that body of research is how interactivity and biographical social disclosure work together. While strong social presence, marked by high social cue, is not a predictor of credibility (Jahng & Littau, 2016), it is possible that it is helping drive interactivity and thus can indirectly help increase perceptions of journalistic credibility.

This research, based on a content analysis of 555 journalists’ Twitter profiles, is an attempt to assess whether a relationship between social disclosure and interactivity exists. What is new about this research compared to past work on interactivity and social presence is that this work focuses on social disclosure in Twitter biographies rather than individual tweets. The “retweet” culture on Twitter means that users often share others’ tweets with their own audiences, and that means Twitter users as audience members often are confronted with information from sources they don’t follow. Users must construct credibility based on limited information about the source, and that often involves a glance at the sharer’s Twitter biography and most recent Twitter posts to assess levels of interaction and social presence.

## Literature Review

### Social Media and Twitter

Twitter’s “microblogging” format is characterized by short messages known as “tweets” (140 characters or less) that are published in reverse-chronological order (boyd, Golder, & Lotan, 2010). Twitter functions as a classic social network, defined as a web application that allows people to create user profiles and connect with one another (boyd & Ellison, 2007). This act of following allows a user to construct a custom feed determined solely on the basis of whom a user chooses to follow (Chen, 2011). Users post their own thoughts and ideas, reply to others’ posts, and share a user’s post to their own network of followers by “retweeting,” effectively enlarging the original poster’s audience. Finally, users can post links with their tweets ranging from news to their own personal content such as videos or blogs (Johnson & Yang, 2009; Sussman, 2009).

Content creation on Twitter has grown sharply since Twitter's launch, from 5,000 tweets per day in 2007 to an all-time high of 500 million per day by 2013, a number that has remained consistent even by the end of 2015 (Krikorian, 2013; Oreskovich, 2015; Weil, 2010). About 19% of American adults reported using the service in 2014 compared to the other key social networking sites in the United States: 59% for Facebook, 23% for LinkedIn, and 22% for Pinterest (Duggan, Ellison, Lampe, Lenhart, & Madden, 2014). More importantly, Twitter is a key platform for news reporting and sharing news (Project for Excellence in Journalism, 2014).

Journalists have not been as quick to embrace the everyday culture of the medium, from updating their profile brands with detailed or customized information to interacting with their audiences; often they are constrained by the busyness of everyday work to do more than post links to their own stories (Ngak, 2012; Schultz & Sheffer, 2010; Uberti, 2014). At its most basic level, Twitter is useful for distributing links to stories so that readers can get news directly from reporter sources rather than having to go to news site home pages on the Web (Ahmad, 2010). Beyond that, Twitter is transforming journalistic routines and norms because of how social media conversation is entering the production and dissemination of news (Barnard, 2014), such that older news values are being grafted on to new emerging practices and values (Hermida, 2012) that are consistent with both Twitter audience expectations and the way in which people interact online (Hermida, 2013).

### Twitter use for content and interactivity

Journalistic use of Twitter has been studied at both the institutional level (Johnson & Kaye, 2002; Kiousis, 2001) and the individual level (Flanagin & Metzger, 2000). One area of research has examined how Twitter affects news coverage produced by reporters and published by news organizations, an activity that treats Twitter as a tool to drive news coverage, such as using tweets from regular citizens to build news stories (Broersma & Graham, 2012) or tap into citizen discussion as a new source of news story ideas (Broersma & Graham, 2013). Other research has examined newsroom culture around Twitter use, such as using it as part of the sourcing routine and use of social-media driven stories (Paulussen & Harder, 2014) or to offer behind-the-scenes coverage of live events or the reporting process (Canter, 2015).

At the individual level, studies found reporters primarily focused on sharing links to their own stories, links to their news organizations' stories (Artwick, 2013; Boyle & Zuegner, 2012), and retweeting elite sources and newsmakers (Artwick, 2014). International news built in the United States but reporting on faraway places has been an exception, as reporters have shown more willingness to amplify non-elite source voices (Cozma & Chen, 2013; Hermida, Lewis, & Zamith, 2014). Parts of the field, such as political reporting, have seen cases of reporters blurring the line between reporting and analysis (Coddington, Molyneux, & Lawrence, 2014). In terms of social disclosure, global standards might be a factor. Research on South Korean journalists found a greater amount of tweeting about personal life and interaction than has been found in studies of U.S. reporters (Kim, Kim, Lee, Oh, & Lee, 2015).

**Social Presence**

Twitter biographical information is presented via the profile page, which consists of a person's biographical details, own tweets, and retweets. Profile pages also allow for customized banners, and users show they're serious about using the medium when they take time to create a well-produced profile page (Farhi, 2009; Twitter, 2014). For professionals, biographical details include where they work, what their job is, and any other relevant professional context, but the lack of standards means a user can choose to share personal details as well. Research in personal disclosure among journalists is more limited. An examination of gender differences found that female reporters were more likely to tweet personal disclosures than male reporters (Lasorsa, 2012). The "personal side" sharing could include tweeting jokes about journalism, their beat, or life in general as well as offering cultural observation or opinion (Molyneux, 2014; Mourão, 2014). Still, social presence literature tends to focus on what the journalists are posting, and even studies that have combined interactivity and variables have not examined biographical information (Lee, 2014).

For this research, personal self-disclosure in a Twitter biography will be viewed through the lens of social presence. Social presence is defined as a psychological concept reflecting the subjective experience of closeness and connectedness in mediated communication (Heeter, 1992; Lombard & Ditton, 1997). A medium is considered rich in social presence when it allows the transmission of nonverbal signals, such as posture, dress, proximity, orientation, physical appearance, facial expressions, and direction of gaze, all of which reduce ambiguity and increase the sense of social presence of communication partners (Short, Williams, & Christie, 1976). Social cue, as minimal as a few biographical details or a portrait picture, can have a drastic impact on the formation of positive impressions by causing individuals to have a strong sense that they know with whom they are interacting even when objectively they are provided with a very small amount of information from the person (Tanis & Posmes, 2003).

In social media settings, an increase in social presence can be seen as the amount of information provided by the individuals in their profiles. Social media encourages self-presentation by allowing individuals to display more information about themselves and express their identities (Hong, Tandoc Jr., Kim, Kim, & Wise, 2012). Social media profiles have become a common channel to express one's identity online for increased social presence (boyd & Heer, 2006). Higher levels of presence on social media elicit a stronger desire to engage with other users and are an important precondition for building interpersonal trust in computer-mediated communication (Cyr, Hassanein, Head, & Ivanov, 2007). In addition, social media profiles with higher social cue are considered to be more positive in terms of popularity and physical attractiveness (Hong et al., 2012).

Jahng and Littau (2016) examined the impact of journalists' use of Twitter in regard to social cue and interactivity on their perceived source credibility, with credibility in that study defined as perceptions of the journalist's trustworthiness. Participants had a more positive attitude toward the journalists who provide a lot of social cue in their Twitter profiles, but such material had no impact on how credible the journalists were considered. Increased social cue on Twitter may not be influential in how credible Twitter users perceive the journalists to be, but this study asks whether journalists differ in their decisions to reveal more personal information about themselves because of the type of news they report or explain on Twitter. Reporters in some topic areas might provide more personal information on the Twitter profiles than reporters in other topics. Thus, with the first research question, this study aims to examine whether there are certain types of journalists who would decide to provide more social cue on Twitter:

**RQ1: What are the characteristics typical of a journalist with strong social presence in their Twitter biography?**

### Interactivity

Studying social media production is in part a study in interactive behavior. Kiousis (2001) defined interactivity as "the degree to which a communication technology can create a mediated environment in which participants can communicate (one-to-one, one-to-many, many-to-many), both synchronously and asynchronously, and participate in reciprocal message exchange" (p. 372). Replying or mentioning another use is a signal, either to followers or non-followers via retweets or searches, that journalists are reading and thinking about replies and feedback they get on Twitter. There also are social benefits to interaction, as it is positively linked both to trust as a relational outcome (Liu, Ginther, & Zelhart, 2001) and to intent to maintain online relationships (Park & Lee, 2013).

On Twitter, journalists can post their own updates, reply to others' posts, create conversation by replying to questions or comments from followers, or share other users' updates with their own followers through a process known as "retweeting" (Messner, Linke, & Eford, 2011). The interactive part of Twitter's news sharing, then, is paramount; users share news and it is disseminated to followers, who can then pass it on to their followers and amplify the message. Having active followers who trust your news product can increase the spread of tweets such that they are seen even by non-followers (Hermida, 2010). Online interactivity allows the consumer to form favorable impressions of those doing the replying, and in particular this is linked to credibility. This has critical implications for Twitter use because the open nature of the network is such that anyone following a journalist is able to reply to individual messages (Metzger, Flanagin, Eyal, Lemus, & McCann, 2003; Morris, Counts, Roseway, Hoff, & Schwarz, 2012). This suggests that those credibility judgments matter even more, because people seeing news from an unknown journalist source have to make quick judgments about the message and source credibility. Interactivity and social presence are both part of this process. Users make heuristic judgments about information found online (Metzger, Flanagin, & Medders, 2010) and these are global evaluations that go beyond individual messages and can extend to profiles or other informational cues (Sundar, 2008). Twitter follower counts and how recently or frequently a person posts influence these decisions (Westerman, Spence, & Van Der Heide, 2012). As such, this study examines the current prevalence of interactivity by journalists and whether there are certain groups of journalists who are more likely to be interactive.

**RQ2: What are the characteristics typical of a journalist with strong interactivity?**

Finally, what is unknown from past research is whether certain actions on Twitter by journalists can predict their level of interactivity. Profile construction, such as using custom banners and avatars, might indicate a signal that a journalist intends to be more involved in the medium. Because journalists can customize their own profiles to fit their personalities, the relationship between social presence and interactivity, when other profile construction variables are taken into account, merits attention. While social cue wasn't a significant predictor in the Jahng and Littau (2016) findings that drive this study, unknown was whether this independent variable was linked to the interactivity variable that was positively associated with credibility.

**RQ3: How are social presence and interactivity related to one another in the context of how a person constructs their Twitter profile?**

## Methods

### Unit of analysis

This study utilized content analysis to address the stated research questions. The unit of analysis was profiles from Twitter accounts registered to self-identified journalists. This study used the website Muck Rack (located at Muckrack.com) as the source for the content analysis. Muck Rack is one of the most popular sites on the Web to cater to journalists looking to connect their social profiles together. It is a global database of journalists who have registered accounts and connected them to their Twitter profiles. At the time this study was done, there were more than 30,000 registered users on Muck Rack. The site also offers the ability for journalists to self-report their areas of coverage, which made it possible to categorize journalists by their subject areas even if this information wasn't in their Twitter biographies.

There are 20 different topic areas, such as politics, business, or sports, listed on Muck Rack. The first step in creating a sample was counting the number of accounts registered in each topic area and then dividing that amount by the total number of registered accounts on Muck Rack. This allowed the coders to determine what percentage of the overall sample was represented by each category. Coders set a target number for accounts to analyze at 555. The coders then made certain that each category's portion of those 555 profiles was proportional to the overall total on the site. For example, sports represented 9.08% of the total accounts on Muck Rack, so 50 sports profiles were coded to account for 9.08% of the 555 total profiles. Once the number of profiles targeted for each category was set, a random number generator determined which profiles would be coded from the entire pool within each category. Profiles for each category were numbered starting from one and counting upward, and the numbers generated at random were matched with profile numbers on the category list. Coders noted the Twitter handle in a spreadsheet, and once this was done for all categories the list of profiles to be coded was complete.

**Procedure and Reliability**

Two coders conducted an initial screening of the profiles after being trained in the coding variables outlined in the next sections. The screening consisted of a pretest to account for any questions or irregularities in the codebook wording, which led to refined definitions. Next, the coders coded 10% of the profiles picked at random and the results were checked for reliability using Krippendorff's alpha as a test of intercoder reliability using ReCal (Freelon, 2010). All variables coded showed a reliability score at 0.83 or higher, which is above the acceptable 0.80 threshold. (Lombard, Snyder-Duch, & Bracken, 2002). Then the remaining profiles were coded separately and the results were merged for analysis.

**Coding Variables**

Every profile coded assembled details from the user's Twitter biography information and feed and matched it with the user's content category. Basic information included the date the profile was coded, the user's Twitter handle, the number of followers the user had, and the number of Tweets listed in the user's profile. Next, coders looked for customization of the profile, noting whether the user had changed the header background picture (coded as yes or no) and whether the Twitter avatar used the introductory Twitter "egg" icon, used an avatar image as a stand-in, or featured a picture of the user.

*Content creator:* Coders examined the profile to determine whether the person listed themselves as a content creator (coded as yes or no). A creator was defined as someone who identifies themselves as a writer, reporter, blogger, analyst, columnist, correspondent, anchor, presenter, host, newscaster, freelancer, or other types of jobs that are associated with content creation or delivery in print, broadcast, or online.

*Topic category:* Muck Rack listed 20 different content news categories. While coding was done to be proportional, for analysis this was problematic because some categories were not well populated. Religion, for example, had only six profiles coded. Thus the categories were combined if they had overlapping interest areas and also seemed to match well in terms of the conceptual split between hard and soft news. Categories consisted of: lifestyle (such as health, religion, travel), business, civic issues (such as public safety or transportation), science and technology (which included environmental reporting), media, politics, opinion, and sports.

*Twitter social presence:* Next, the profile biography (which consists of 160 characters) was coded for personal facts shared, with the variable "social presence" defined as the amount of personal information shared in the Twitter user's biography. This was done to reflect the aforementioned theoretical scholarship on social presence, which characterizes high social presence as containing a large amount of social cue (personal-facts disclosures). Coders counted the total number of facts stated in the biography and then counted how many of those facts were personal disclosure. Personal facts were defined as disclosures users make that are not related to their jobs or careers, such as hobbies, family life, or where they live. Based on these totals, a social cue count variable was created by dividing the personal disclosures by facts shared to determine what percentage of facts shared were personal. For analysis, these percentages were then recoded into the categorical variable of high or low social presence using frequency statistics. High social presence was determined by comparing a user's percentage to the average percentage among all the bios coded in this research. The cutoff between the high and low groups was determined by trying to reconcile the mean (26.8%) and median (25%) values, and 25.9% was chosen as the cutline for the low-high condition based on it being halfway between the two. Thus social presence above 25.9% was coded as high, and all else was coded as low.

*Twitter interactivity:* Finally, coders determined the interactivity count for each profile, with the variable "interactivity" defined as number of tweets in a Twitter user's feed that reflect either reading tweets from a person followed or conversing with a follower. In this case, the work of Messner, Linke, & Eford (2011) helped determine how theoretical work on interactivity would be turned into measured variables. Specific Twitter actions were coded as being interactive or non-interactive based on attempts at conversation or listening to followers. This was coded by looking at the 20 most recent tweets in a user's feed by clicking on the "Tweets & Replies" tab at the top of their Twitter profile page. Tweets were sorted into five different categories: non-interactive without links (consisting of no use of another's Twitter username and no link), non-interactive with links (no use of another's Twitter username but the tweet contained a link), retweets (sharing another user's tweet using the retweet button or using a manual "RT @" retweet), replies (tweets that are a reply to a tweet, starting with the person's @username), and mentions (tweets that contain another's username, including tweets that started with .@username in an attempt to reply to the person but also share it publicly). Mentions and replies were added together and considered the interactive tweets; that total was divided by 20 to create a percentage of tweets that were interactive. High interactivity was determined by comparing a user's percentage to the average percentage among all the bios coded in this research. Similar to what was done with social cue, an interactivity high-low variable was created using frequency statistics. The cutline was determined by trying to reconcile the mean (37.5%) and median (35.0%) values, and using the same method as social presence, 36.3% was chosen as the cutoff for the low-high condition based on it being halfway between the two. As a result, interactivity above 36.3% was coded as high, and all else were coded as low.

## Results

The 555 Twitter profiles selected were coded during October 2014. In addition to the data reported below for the research questions, other demographic data sheds light on the sample. The average Twitter user studied in this content analysis had about 9,132 followers and 9,287 tweets. In terms of profile construction, 374 (67.4%) of those studied were based in the United States and 326 users (58.7%) had a professional photo for their profile compared to 153 using a personal shot (27.6%), and 75 using some type of picture avatar (13.5%). Only 213 users (38.4%) had a customized Twitter profile featuring an uploaded image banner. In terms of content creation, 434 of the journalists (78.2%) self-identified as some type of content creator while the rest would, according to the codebook definition, fit the role of editor, executive, and so forth.

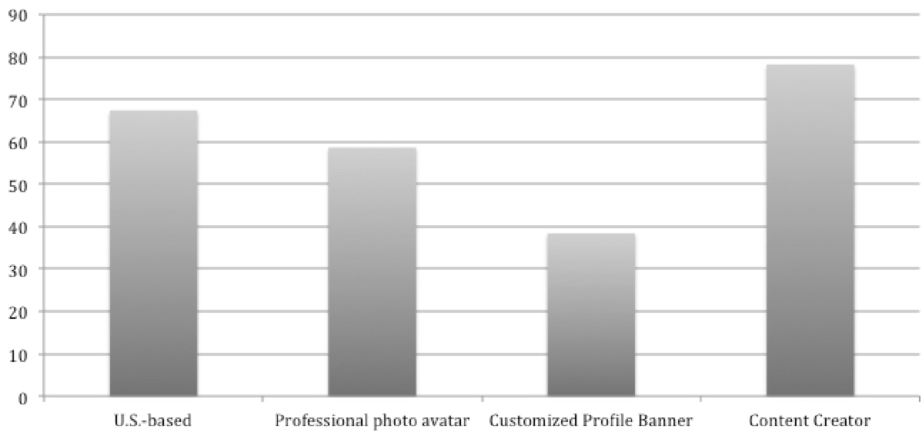



**FIGURE 1.** *Key descriptive statistics for the 555 Twitter profiles sampled and coded for this study. The graphs represent the percentage of sampled users who were coded as "yes" for the given category.*

The first research question asked about the characteristics typical of a journalist with strong social presence. This question was answered two ways. First, chi-square analysis compared high-low disclosure to the other categorical variables: U.S. journalism, profile header customization, photo type, content creator status, and topic category. There were 290 profiles in the low social cue category (56.1%) compared to 43.9% in high social cue, thus reflecting a general split that favors more professionalism in journalists' Twitter bios. With the chi-square tests, none of the comparisons were statistically significant except for topic category ($\chi2(7, N = 555) = 17.94, p < .05$). The differences for topic category were seen mostly in a few categories that showed a sharp departure from the low-high split in the overall count. Science and technology was the only category that showed a reversal of the aggregate split, with 46 journalists showing high social cue (62.2%) compared to 28 showing low social cue (37.8%). In addition, two categories showed an even stronger trend away from personal disclosure. Political journalists were split at 48 low social cue (67.6%) and 23 high social cue (32.4%) and sports journalists were split at 32 low social cue (62.7%) and 19 high social cue (37.3%). The second part of answering this question used bivariate correlation to examine non-categorical variables such as follower and tweet counts against the percentages for social presence and interactivity. Analysis showed a non-significant relationship between tweet count and social presence, but there was a negative relationship between a journalist's number of followers and social presence percentage ($r(553) = -.11$, $p < .05$). In other words, the more followers a journalist has, the less likely he or she was to disclose personal details about themselves.

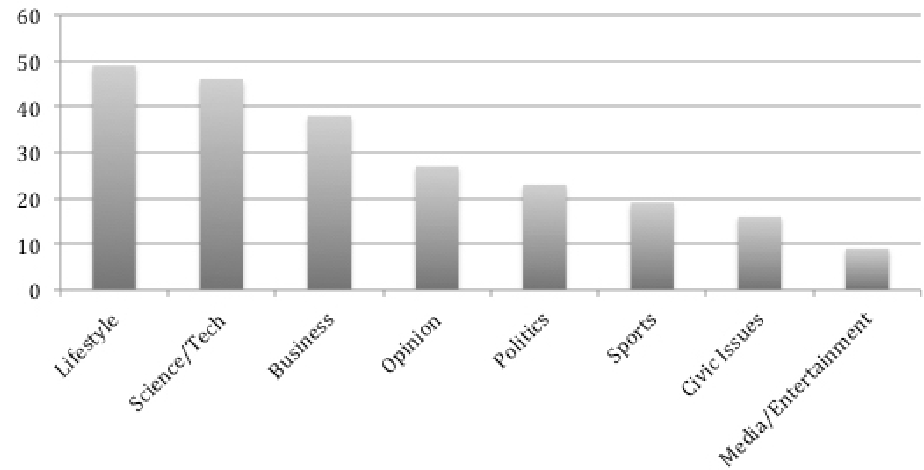



**FIGURE 2.** *The percentage of sampled users who demonstrated high social presence in each of the eight beat topic categories, as explained in RQ1.*

Taken together, the correlations and chi-square results offer some insights. The science and technology numbers fit the pattern, as the category had a relatively low count (13.3% of the 555 profiles) and had high disclosure percentages. Politics and sports were roughly in the middle in the total number of profiles coded among the eight categories, as politics had 71 (12.8% of the total) of the profiles and sports had 51 (9.2%). Thus it would seem that though there were categories with higher totals, these two represented the correlation trend better in that they veered most from the high-low split.

The second research question asked about the characteristics typical of a journalist with strong interactivity. This question was answered using chi-square analysis and correlation, similar to the first research question. First, chi-square analysis compared high-low interactivity to the other categorical variables: U.S. journalism, profile header customization, photo type, content creator status, and topic category. There were 306 profiles in the low interactivity category (59.2%) compared to 211 (40.8%) in high interactivity, thus reflecting the literature that found journalists tend to post tweets and links without interacting much with the audience. With the chi-square tests, again topic category was the only one to find significance in comparison to interactivity ($\chi2(7$, N =

555) = 19.50, p < .01). Similar patterns to social cue emerged with the topics category. Science and technology showed a roughly even split between low and high interactivity, with 38 low interactivity (51.4%) compared to 36 high interactivity (48.6%). Political journalism and sports journalism again both veered from the aggregate percentages toward even lower interactivity, with politics showing 67.6% low and sports at 72.5% low. In addition, civic issues were 67.6% low interactivity. In examining the correlations, neither follower counts nor tweet totals were associated with interactivity.

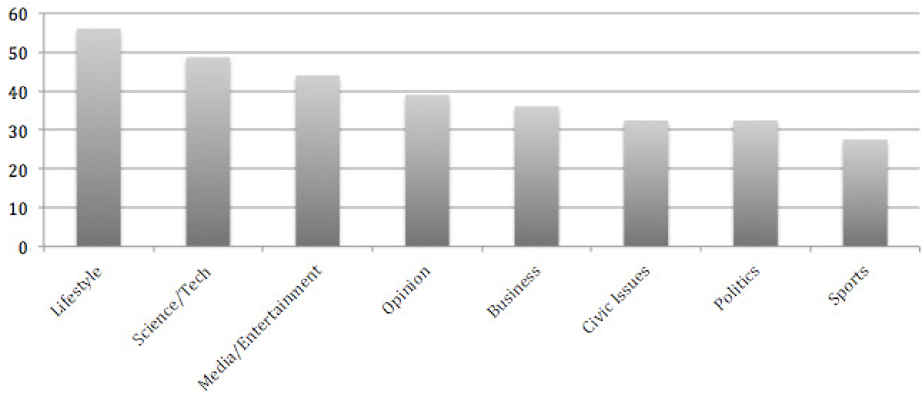



**FIGURE 3.** *The percentage of sampled users who demonstrated high interactivity in each of the eight beat topic categories, as explained in RQ2.*

Given that the answers to RQ1 and RQ2 showed similar patterns, with similar categories showing different levels of personal disclosure and interactivity than the aggregate totals, the relationship between interactivity and social presence becomes more important. RQ3 asked how social presence and interactivity are related to one another in the context of how journalists construct their Twitter profiles. First, bivariate correlation shows the variables are related ($r(553) = -.10$, $p < .05$), meaning that high amounts of personal sharing in Twitter profiles is related to high interactivity. This relationship reflects Twitter's status as a social communication platform.

The question remaining is how much these variables influence one another in light of some of the other factors studied in this research. Thus two regression analyses were run, one for interactivity percentage and one for social presence as dependent variables. In both regressions, Twitter follower and tweet counts, content creators, and whether or not users had customized their profiles were entered as predictors because they were dichotomous variables. In addition, the eight topic categories were split into binary categorical variables using dummy coding to create eight different variables. For example, the first variable transformed lifestyle profiles into yes and the seven other category types into no. Then this was repeated for business, civic issues, science, media, politics, opinion and sports. Finally, for interactivity's regression, social presence was a predictor variable while the opposite was true for the other regression.

The first regression predicting social presence showed significance ($R^2$ = .08, $F$(12, 542) = 3.66, $p$ < .01) with interactivity percentage ($b$ = .08, $t$(542) = 1.99, p < .05) and a customized profile ($b$ = .14, $t$(542) = 3.30, $p$ < .01) acting as significant positive predictors while content creator was a significant negative predictor ($b$ = -.11, $t$(542) = -2.66, $p$ < .01). Those who were content creators shared more personal details, whereas those who identified as editors or executives revealed less. High interactivity stayed significant in this regression. Having a customized profile in this case could represent an intention to engage with the audience beyond merely posting. The second regression predicting interactivity showed significance ($R^2$ = .05, $F$(12, 542) = 2.16, $p$ < .05) with social presence ($b$ = .22, $t$(542) = 3.99, $p$ < .01) as the only significant predictor. The lifestyle category was approaching positive weight at $p$ < .05, as was sports (although that weight would have been negative).

Taken together, the regressions shed light on the chi-square results from the first two research questions. While there were some tendencies for categories such as politics, sports, or science to stray from the expected percentage split for both interactivity and social presence, by using dummy coding in regression in concert with the other variables we see those categories have much less impact on predicting the interactivity or social presence compared to other factors such as a person’s specific job.

## Discussion

While the interactivity levels measured in this study were low, a finding consistent with past research, the new finding in this study is that there is a positive relationship between interactivity and social presence. Journalists who show high social cue in their profiles tend to be highly interactive. These findings have implications for both scholarship and practice. In terms of scholarship, recall that this study was building on past work that showed no impact for social presence on credibility, but also that interactivity was strongly linked to perceptions of journalistic credibility (Jahng & Littau, 2016). That model would seemingly discount social presence as a factor, but these results indicate that further research should explore whether social presence is a potential driver of interactivity, a type of precursor that might not show up in a controlled lab experiment.

What is not known based on this data is whether this relationship between social presence and interactivity is reflective of training, prolonged use, or a certain personality type. That is, are highly interactive journalists more likely to have high social cue on Twitter merely as a matter of personality and behavior? Or does this mean that if journalists who join Twitter are trained to construct personalized profiles with custom pictures, banners, and high social disclosure then they will over time become more interactive or at least see some of the benefits of being invested in a more interactive use pattern? Understanding this relationship is important because these factors are building blocks in how users assess journalistic credibility on Twitter when they encounter a tweet from a journalist they don’t know or follow. It also is worth understanding as newsrooms attempt to find ways to increase reporter engagement on social media.

If journalists' tendency to be interactive can impact Twitter users' perception of their credibility, then interactivity's demonstrated relationship with social presence suggests a need to further explore how and why the latter influences the choice to be more interactive on Twitter. While Jahng and Littau (2016) found social presence isn't linked to credibility judgments, its positive relationship with interactivity suggests that it potentially is a factor in the choice to interact, which in turn drives attitudes such as credibility perceptions.

In terms of practical implications, the results showing a relationship between social presence and interactivity can help guide newsrooms in thinking about effectively training journalists to use Twitter as it becomes more normalized as part of news operations. First, while credibility is certainly not the only factor to consider and indeed could not have been the object of study given the method used, the results are clear that interactivity is an important factor in the global assessment of whom to follow and whose messages to trust. In addition, those who are open about sharing in their bios tend to interact more, so newsroom Twitter training should incorporate more than the instruction to respond, reply, and retweet as part of using the medium. Indeed, scholars have noted the need to interact with audiences in past work but none have touched on the need to show strong social presence. The results here show that those who are inclined to share also are inclined to interact, and so training journalists in the art of social disclosure would be a helpful addition to Twitter training.

Those who train journalists regarding Twitter often put some emphasis on the importance of replying to people who ask them questions, comment, correct the record, or offer alternative points of view on Twitter. But the results here do show that some thoughtfulness about biographical disclosure and the open nature of Twitter conversation, those personal elements Twitter users share in order to show their human sides, also can be an important factor in training.

Beyond the main findings in RQ3, the content analysis of journalists' Twitter profiles in this research confirms past findings that journalists demonstrate low levels of social presence and interactivity. But this study also extends that knowledge further in two ways. First, in breaking out interactivity and social presence by topic, the results here shed new light on those previously observed phenomena. When analyzing interactivity and social presence by topic, we find that most of the topics stay roughly equivalent to the baseline percentages when judging journalists as a whole, similar to past work. The results show that science and technology journalism actually behaves in the reverse, with journalists in those topic areas more likely to be interactive and to construct bios that disclose personal details. Alternatively, journalists covering topics such as politics and sports are less interactive and personal on Twitter.

The content categories findings show that neither social presence nor interactivity are monolithic behaviors among journalists. Instead, there are differences for topic categories. Why there are differences could potentially be explained by the nature of some of the topics. Politics and sports are common topics on Twitter (Wiltshire, 2013) and in some ways they are characteristically driven by partisanship (affiliation with political party or sports team).

These results are exploratory in nature and any attempt at interpretation is extrapolation, but we offer a few potential explanations as a starting point for future research into these new findings. First, it is possible that journalists on Twitter who cover these topics are even more careful to avoid personal details or interaction for fear of being seen as being biased against a team or a political party. At the same time, a topic such as science or technology is less controversial on the whole. While certain topics such as climate change have been politicized and broken users into camps, the topic itself isn't politicized by definition. Perhaps followers of science and technology are of a certain type, perhaps friendly to the topic itself and the journalist has less fear of being perceived as biased. A second possible explanation could be found in the content of replies that journalists receive on Twitter. The Internet phenomenon known as "trolling," in which users harass others on interactive social platforms, has been demonstrated consistently in online research (Hardaker, 2010). It is possible that journalists working in high-interest topic areas characterized by partisan-like passions might be subject to more types of this abuse. While this study did not examine the types of replies the journalists get, future research could explore whether there are links between being the recipient of trolling behavior and tendencies to interact and self-disclose personal information. The results also might mean that journalists are more likely to interact on topics that are less likely to draw trolling criticism and less likely to interact on issues that are subject to trolling, debate, or criticism. Regardless, this is a relationship that has yet to be explored in research and represents a worthwhile new direction based on the findings in this study.

Discovering why journalists in some areas interact more than others has practical implications. It could simply mean that more training is needed in certain topic areas to bring those parts of the field in line with best practices, or that journalists who cover certain topics are more resistant to Twitter interactivity and social presence. Understanding and helping journalists on particular beats learn to interact with their audiences is a useful endeavor as news dissemination continues to move to a more networked-based information spread and away from landing pages on singular platforms.

Worth noting is that most often the content creators are more likely to be interactive on Twitter with more social cue, and it appears that follower count tends to gravitate toward those who already have a well-known name outside of the medium. A similar pattern has been demonstrated in the blogosphere (Hindman, 2009). Contrary to the popular belief that blogs are the democratized form of voices, Hindman found it was only a small percentage of bloggers who get a noticeable number of readers and viewers. He argues that the small number of voices in the blogosphere is less of a concern than the fact that it is the journalists from elite mainstream media who are getting the public attention of the blogosphere (Hindman, 2009, p. 128). Other research has demonstrated such tendencies in Twitter activism; Twitter users with higher connectivity and issue involvement were more influential in the information flow on Twitter (Xu, Sang, Blasiola, & Park, 2014). It is left to future studies to examine whether such a pattern also holds for journalists based on their skills to utilize Twitter.

As with any research, there are limitations that could be addressed in future studies. The content analysis looked solely at specific details shared, and thus the coders did not add any additional details about the journalists coded, including professional characteristics such as what type of journalist they are (television or print, for example) as well as personal demographic characteristics such as age or gender. It is possible these factors might prove useful in further understanding what was found here. Also, the content study in this case was a snapshot in time, and thus Twitter feeds and user bios that were examined could offer different levels of interactivity or social disclosure over time as journalists use the medium more. It is possible the data will evolve over time as journalists get more comfortable using the platform, so the results should be understood within the context of when they were coded.

## References

Ahmad, A.N. (2010). Is Twitter a useful tool for journalists? *Journal of Media Practice, 11*(2), 145-155.

Armstrong, C.L., & Gao, F. (2010). Now tweet this: How news organizations use Twitter. *Electronic News*, 4(4), 218-235. doi: 10.1177/1931243110389457

Artwick, C.G. (2013). Reporters on Twitter. Product or service? *Digital Journalism, 1*(2), 212-228.

Artwick, C.G. (2014). News sourcing and gender on Twitter. *Journalism, 15*(8), 1111-1127. doi: 10.1177/1464884913505030

Barnard, S.R. (2014). Tweet or be sacked': Twitter and the new elements of journalistic practice. *Journalism, 17*(2), 190-207.

boyd, d., Golder, S., & Lotan, G. (2010, January 5-8). *Tweet, tweet, retweet: Conversational aspects of retweeting on Twitter*. Paper presented at the 43rd Hawaii International Conference on System Sciences, Honolulu, HI.

boyd, d., & Heer, J. (2006, January). *Profiles as conversation: Networked identify performance on Friendster*. Paper presented at the Hawai'i International Conference on System Sciences (HICSS-39), Persistent Conversation Track, Kauai, HI.

boyd, d.m., & Ellison, N.B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230.

Boyle, K., & Zuegner, C. (2012). News staffs use Twitter to interact with readers. *Newspaper Research Journal, 33*(4), 6-19.

Broersma, M., & Graham, T. (2012). Social media as beat: Tweets as a news source during the 2010 British and Dutch elections. *Journalism Practice, 6*(3), 403-419.

Broersma, M., & Graham, T. (2013). Twitter as a news source: How Dutch and British newspapers used tweets in their news coverage, 2007-2011. *Journalism Practice, 7*(4), 446-464.

Bunz, M. (2010). BBC tells news staff to embrace social media. Retrieved March 1, 2015, from http://www.theguardian.com/media/pda/2010/feb/10/bbc-news-social-media

Canter, L. (2015). Personalised tweeting: The emerging practices of journalists on Twitter. *Digital Journalism, 3*(6), 888-907.

Chen, G.M. (2011). Tweet this: A uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Computers in Human Behavior, 27*(2), 755-762.

Coddington, M., Molyneux, L., & Lawrence, R.G. (2014). Fact checking the campaign: How political reporters use Twitter to set the record straight (or not). *The International Journal of Press/Politics, 19*(4), 391-409.

Cozma, R., & Chen, K.-J. (2013). What's in a Tweet? Foreign correspondents' use of social media. *Journalism Practice, 7*(1), 33-46.

Cyr, D., Hassanein, K., Head, M., & Ivanov, A. (2007). The role of social presence in establishing loyalty in e-service environments. *Interacting with Computers, 19*(1), 43-56.

Duggan, M., Ellison, N.B., Lampe, C., Lenhart, A., & Madden, M. (2014). Social media update 2014. *Pew Internet and American Life Project*. Retrieved from http://www.pewinternet.org/2015/01/09/social-media-update-2014/

Farhi, P. (2009). The Twitter explosion. *American Journalism Review, 31*(3), 26-31.

Flanagin, A. J., & Metzger, M. J. (2000). Perceptions of internet information credibility. *Journalism & Mass Communication Quarterly, 77*(3), 515-540.

Freelon, D. (2010). ReCal: Intercoder reliability calculation as a Web service. *International Journal of Internet Science, 5*(1), 20-33. {Lee, 2014 #805}

Hardaker, C. (2010). Trolling in asynchronous computer-mediated communication: From user discussions to academic definitions. *Journal of Politeness Research, 6*, 215-242.

Heeter, C. (1992). Being there: The subjective experience of presence. *Presence: Teleoperators and virtual environments, 1*(2), 262-271.

Hermida, A. (2010). Twittering the news. *Journalism Practice, 4*(3), 297-308. doi: 10.1080/17512781003640703

Hermida, A. (2012). Tweets and truth: Journalism as a discipline of collaborative verification. *Journalism Practice, 6*(5-6), 659-668.

Hermida, A. (2013). #Journalism: Reconfiguring journalism research about Twitter, one tweet at a time. *Digital Journalism, 1*(3), 295-313.

Hermida, A., Lewis, S.C., & Zamith, R. (2014). Sourcing the Arab Spring: A case study of Andy Carvin's sources on Twitter during the Tunisian and Egyptian revolutions. *Journal of Computer-Mediated Communication, 19*(3), 479-499.

Hindman, M. (2009). *The myth of digital democracy*. Princeton, NJ: Princeton University Press.

Hong, S., Tandoc Jr., E., Kim, E.A., Kim, B., & Wise, K. (2012). The real you? The role of visual cues and comment congruence in perceptions of social attractiveness from Facebook profiles. *Cyberpsychology, Behavior, and Social Networking, 15*(7), 339-344.

Jahng, R., & Littau, J. (2016). Interacting is believing: Interactivity, social cue, and perceptions of journalistic credibility on Twitter. *Journalism & Mass Communication Quarterly, 93*(1), 1-21. doi: 10.1177/1077699015606680

Johnson, P.R., & Yang, S.-U. (2009, August). *Uses and gratifications of Twitter: An examination of user motives and satisfaction of Twitter use*. Paper presented at the Association for Education in Journalism and Mass Communication, Boston, MA.

Johnson, T. J., & Kaye, B. K. (2002). Webelievability: A path model examining how convenience and reliance predict online credibility. *Journalism & Mass Communication Quarterly, 79*(3), 619-642.

Kim, Y., Kim, Y., Lee, J.S., Oh, J., & Lee, N.Y. (2015). Tweeting the public: Journalists' Twitter use, attitudes toward the public's tweets, and the relationship with the public. *Information, Communication & Society, 18*(4), 443-458.

Kiousis, S. (2001). Public trust or mistrust? Perceptions of media credibility in the information age. *Mass Communication & Society, 4*(4), 381-403.

Kirkpatrick, M. (2009, May 26). NY Times appoints first social media editor. Retrieved from http://readwrite.com/2009/05/26/nytimes_appoints_social_media_editor

Krikorian, R. (2013). New tweets per second record, and how! Retrieved from https://blog.twitter.com/2013/new-tweets-per-second-record-and-how

Lasorsa, D. (2012). Transparency and other journalistic norms on Twitter: The role of gender. *Journalism Studies, 13*(3), 402-417.

Lasorsa, D.L., Lewis, S.C., & Holton, A.E. (2012). Normalizing Twitter. *Journalism Studies, 13*(1), 19-36.

Lee, J. (2014). The double-edged sword: The effects of journalists' social media activities on audience perceptions of journalists and their news products. *Journal of Computer-Mediated Communication, 20*(3), 312-329.

Liu, Y., Ginther, D., & Zelhart, P. (2001). How do frequency and duration of messaging affect impression development in computer mediated communication. *Journal of Universal Computer Science, 7*(10), 893-913.

Lombard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. *Journal of Computer-Mediated Communication, 3*(2).

Lombard, M., Snyder-Duch, J., & Bracken, C.C. (2002). Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human Communication Research, 28*(4), 587-604.

Messner, M., Linke, M., & Eford, A. (2011, April). *Shoveling tweets: An analysis of the microblogging engagement of traditional news organizations*. Paper presented at the 12th International Symposium for Online Journalism, Austin.

Metzger, M.J., Flanagin, A.J., Eyal, K., Lemus, D.R., & McCann, R.M. (2003). Credibility for the 21st century: Integrating perspectives on source, message, and media credibility in the contemporary media environment. *Communication Yearbook, 27*, 293-336.

Metzger, M.J., Flanagin, A.J., & Medders, R.B. (2010). Social and heuristic approaches to credibility evaluation online. *Journal of Communication, 60*(3), 413-439. doi: 10.1111/j.1460-2466.2010.01488.x

Molyneux, L. (2014). What journalists retweet: Opinion, humor, and brand development on Twitter. *Journalism, 16*(7), 920-935.

Morris, M.R., Counts, S., Roseway, A., Hoff, A., & Schwarz, J. (2012, February). *Tweeting is believing?: Understanding microblog credibility perceptions*. Paper presented at the Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work.

Mourão, R.R. (2014). The boys on the timeline: Political journalists' use of Twitter for building interpretive communities. *Journalism, 16*(8), 1107-1123.

Ngak, C. (2012, March 28). Social media a news source and tool during Superstorm Sandy, *CBS News*. Retrieved from http://www.cbsnews.com/news/social-media-a-news-source-and-tool-during-superstorm-sandy

Oreskovich, A. (2015, June 15). Here's another area where Twitter appears to have stalled: Tweets per day. *Business Insider.* Retrieved from http://www.businessinsider.com/twitter-tweets-per-day-appears-to-have-stalled-2015-6

Park, H., & Lee, H. (2013). Show us you are real: The effect of human-versus-organizational presence on online relationship building through social networking sites. *Cyberpsychology, Behavior, and Social Networking, 16*(4), 265-271.

Parmelee, J.H. (2013). Political journalists and Twitter: Influences on norms and practices. *Journal of Media Practice, 14*(4), 291-305.

Paulussen, S., & Harder, R.A. (2014). Social media references in newspapers. Facebook, Twitter and YouTube as sources in newspaper journalism. *Journalism Practice, 8*(5), 542-551.

Posetti, J. (2009, June 19). Rules of engagement for journalists on Twitter. Retrieved from http://www.pbs.org/mediashift/2009/06/rules-of-engagement-for-journalists-on-twitter170/

Project for Excellence in Journalism (2014). The state of the news media 2014. Retrieved from http://www.journalism.org/packages/state-of-the-news-media-2014/

Schultz, B., & Sheffer, M.L. (2010). An exploratory study of how Twitter is affecting sports journalism. *International Journal of Sport Communication, 3*, 226-239.

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: John Wiley.

Sundar, S.S. (2008). The MAIN model: A heuristic approach to understanding technology effects on credibility. In M. J. Metzger & A. J. Flanagin (Eds.), *Digital media, youth, and credibility* (pp. 72-100). Cambridge, MA: The MIT Press.

Sussman, M. (2009). Day 5: Twitter, global impact, and the future of blogging. *Technorati.* Retreived from http://technorati.com/blogging/article/day-5-twitter-global-impact-and/- axzz0josbPS6N

Tanis, M., & Posmes, T. (2003). Social cues and impression formation in CMC. *Journal of Communication, 53*(4), 676-693.

Twitter. (2014). About Twitter. from https://about.twitter.com

Uberti, D. (2014, December 9). How political campaigns use Twitter to shape media coverage. *Columbia Journalism Review*. Retrieved from http://www.cjr.org/behind_the_news/how_political_campaigns_use_tw.php

Weil, K. (2010). Measuring tweets. Retrieved from https://blog.twitter.com/2010/measuring-tweets

Westerman, D., Spence, P.R., & Van Der Heide, B. (2012). A social network as information: The effect of system generated reports of connectedness on credibility on Twitter. *Computers in Human Behavior, 28*(1), 199-206.

Wiltshire, L. (2013). 2013: The year on Twitter. Retrieved from https://blog.twitter.com/en-gb/2013/2013-the-year-on-twitter

Xu, W.W., Sang, Y., Blasiola, S., & Park, H.W. (2014). Predicting opinion leaders in Twitter activism networks: The case of the Wisconsin recall election. *American Behavioral Scientist, 58*(10), 1278-1293.

***Jeremy Littau*** *is an assistant professor of Journalism and Communication at Lehigh University. He earned his Ph.D. and master's in Journalism from the University of Missouri (Columbia) in 2009. He focuses both his research and teaching at the intersection of media and community. He has published work on digital social movements, social media, participatory journalism, mobile reporting, and mobile video streaming law.*

***Mi Rosie Jahng*** *is an assistant professor of Communication at Hope College. She holds a Ph.D. in Journalism from the University of Missouri and master's from the University of Texas-Austin. She studies how social media can influence our political behavior and attitudes, such as how participation in heterogeneous political discussions via online channels can discourage selective exposure to political information.*

# The Economics of Accountability Journalism: What Price is Right?

*James Breiner*

*The declining supply of high-quality accountability journalism, also referred to as investigative or watchdog journalism, can be viewed from an economic perspective as a pricing problem. This costly journalism has never paid for itself. It has been subsidized by advertising or by government, so its value to the audience has never been measured in a pure market environment. With the loss of advertising and staff cuts, accountability journalism has suffered. Now publishers, government, and the public are, in effect, negotiating in a new digital marketplace to establish a price for this valuable information service and who will pay for it.*

## Introduction

### The old model collapses

The media industry is unusual because it operates in what economists call a two-sided market. On one side are consumers, who want to be entertained and informed. On the other are advertisers, who want to get their messages to the public. The advertisers and consumers are rivals for information. The public wants to know everything about a product or service offered by an advertiser, but that advertiser may want to share only certain information about the product and about itself. Accountability journalism, also referred to as “watchdog” or “investigative” journalism, focuses on the demands of the public and will often reveal information that could be embarrassing to an advertiser or, in the case of publicly subsidized media, the political leaders who control media budgets.

The economic value and the pricing of accountability journalism are critical today because of the media’s role in democracies as a counterbalance to political and economic power, the so-called Fourth Estate. High-cost accountability journalism has suffered mightily since the global economic recession of 2007 caused drastic reductions in print advertising at the same time that audiences and advertisers were migrating to digital media. U.S. newspapers saw their combined print and digital advertising revenue fall by 60% in eight years, and newsroom staff fell by 18,300, or 33% (Barthel, 2015). In Spain, to pick the most extreme example from Europe, 11,100 journalists have lost their jobs since the twin crises began (PR Noticias, 2014).

As the public and advertisers have stampeded to mobile devices, the traditional technology for measuring audiences and pricing media products has proven unsatisfying for both publishers and advertisers. Advertisers want to know not only the size of the audience, but its characteristics—income, location, interests, spending habits, hobbies, and more (Breiner, 2015a). “But for technical reasons, it is difficult to track a single user across all the devices they may use at home, at work or on the go—smartphone, tablet, laptop, desktop” (para. 5). That user of many devices will appear to be several different users to standard measurement software such as Google Analytics. Cookies—those bits of information placed on a user’s browser when they visit a website—track the user and give hints about their interests, but cookies do not work when the user moves from a browser into the walled gardens of mobile devices and applications.

The collapse of the old models has raised a number of economic and public policy questions. Who will pay for accountability journalism, and how much will they pay? The price has never been determined in a pure economic market because it has been subsidized by advertising or by government payments, either user fees or taxes. What benefit does this type of journalism have in society and in the marketplace? Is this journalism really a marketable product or is it a public good, like highways or fire protection or national defense, and therefore best paid for by government subsidies?

This paper will explore how digital publishers, advertisers, government, and the public are attempting to establish an economic value for accountability journalism, who should pay for it, and how much.

**Setting value**

An example of the value of accountability journalism can be illustrated by a Swiss Leaks investigation coordinated by the International Consortium of Investigative Journalists. The investigation showed how one Swiss bank, HSBC, knowingly protected clients engaged in illegal activities. The project involved 175 reporters from 56 countries and resulted in more than 400 articles in 65 different media (ICIJ, 2015). It is a sign of the economic crisis in the media that no single for-profit media outlet had the resources to execute an investigation as complex as this without the help and coordination of a nonprofit NGO, the ICIJ. The benefit to society of this report was to demonstrate a need for better international cooperation in bank regulation, but the cost to the media organizations in terms of time dedicated by expert personnel was significant.

High-impact accountability journalism can be executed on a smaller scale, but someone still needs to pay for it. A group of five young Mexican journalists who founded the investigative website *Quién Compró* (Who bought it?) researched the expense reports of Mexican senators and congressmen and reported that they had spent hundreds of thousands of taxpayers’ dollars on Harley-Davidson motorcycles and a $60,000 SUV for a government agency of obscure purpose (Breiner, 2015b). The journalists at *Quién Compró*, who do investigative data journalism in their spare time, were filling a gap. Traditional media had cut newsroom staffs to the point where they could not do this kind of journalism. In fact, they paid Quién Compró syndication fees to do it for them.

A global assessment of funding for investigative journalism by the Center for International Media Assistance in 2013 found that staff cuts had reduced newsroom budgets for investigative journalism "despite its frontline role in fostering accountability, battling corruption, and raising media standards" (Kaplan, p. 6). The report found that "investigative reporting receives relatively little support—about 2% of global media development funding by major donors." It also made a case for the value of this journalism in economic development, citing a study by Transparency International, which asked 3,000 business people in 30 countries how best to fight corruption. A plurality of business people in 21 of the 30 countries chose journalism as their top choice (Kaplan, 2013, p. 10).

**Subsidies of print and television**

Not all accountability journalism has to be adversarial and reveal corruption. It could simply reveal how effective government and public service agencies are doing their job. This clearly has value to society. For the past half century or so, the main sources of this type of journalism, which requires time, resources, and skilled personnel, have been large, well funded news organizations, generally newspapers and magazines (Picard, 2015a), or television, whether private or public (Barwise & Picard, 2015).

Historically, advertisers have subsidized readers of newspapers and magazines. Because of the "high first-copy cost factor of the creation of content" (Barwise & Picard, p. 186), it was in the interest of publishers to sell as many copies as possible within the limits of cost imposed by distance and time for delivery of their perishable product, the news. And since publishers received 60% to 80% of their revenues from advertising, their incentive was to price the product as low as possible so as to attract more advertising. As Picard observed, " . . . the most important demand function and price signals were those of the advertiser, with the price signals and quality demands of the reader playing secondary roles" (2015a, p. 155). Publishers would price advertising on the size and characteristics of their audience based on annual surveys. That information, plus the quantity of copies sold and where in the market they were sold—an indicator of socioeconomic status of the readers, and thus their buying power—were reported to an auditing service that provided advertisers with some level of assurance about the audience they were paying to reach.

On the supply side, the publishing business has never been a purely competitive marketplace because of significant barriers to entry. To launch a publication required high capital investment in a printing press and facilities for distribution (Picard, 2015a, p. 151). With the advent of digital publishing, the pricing problem has become much more complex. A two-sided market has become a many-sided one, as Picard graphically illustrated:

> The problem occurs because there are paying audiences and advertisers for the print edition, free or paying audiences and paying advertisers for online editions, and some joint audience and advertisers who use both the print and online offerings. If one alters a free price online to create a paying audience,

> it not only affects the willingness of online advertisers to pay, but affects the willingness of joint audiences and advertisers to pay and thus affects performance of the print sales as well (p.156).

Television offers equally complex challenges. The market is made up of three types of television: free-to-air TV, funded by advertising; public TV, funded by taxes or license fees or both; and cable or satellite TV, funded by consumer payments with some advertising (Barwise & Picard, 2015). Only cable and satellite TV approach something like a competitive market since users pick the products they want and decide whether they want to pay the price demanded by the provider. It is not a pure market, because broadcasters bundle channels together and users may have to pay for channels they don't want in order to see ones they do. On-demand streaming video services are creating a purer economic market for programming, but have had little effect on journalism.

On the supply side of free-to-air TV, broadcast spectrum is a scarce resource allocated by the government as a public good, so TV has never been a purely competitive market. Because of the high costs of production and of acquiring spectrum, barriers to entry are high. Only well financed organizations can compete (Barwise & Picard, 2015). The United States is one of the few countries in the world that has chosen to let private companies provide free-to-air TV. On the demand side, because consumers pay nothing, they have limited choices among products. Advertisers have heavy influence on programming, which results in "a restricted range of easy-viewing programs" that cost little to produce, such as game shows and reality shows. Broadcasters are less likely to offer expensive-to-produce programming such as "challenging drama, heavyweight current affairs, demanding culture," which have a small audience and, in the case of news, could offend some advertisers. They have little incentive to serve society as a whole or take a risk on original programming (pp. 168, 176).

In most countries other than the United States, public TV is the predominant medium, as measured by audience size and budgets, and it competes with commercial TV for viewers, talent, and, in some cases, advertisers (Barwise & Picard, 2015, p. 165). Public TV funded by license fees, such as the BBC in the United Kingdom, aims to "maximize viewership and increase the number and quality of programs that commercial broadcasters won't show" (p. 172).

Barwise and Picard make an economic case for subsidies of some types of programming that have societal value and that the market underprovides. Accountability journalism is one of those types of programming that the market skimps on.

A problem with publicly funded TV is that there are always debates about its efficiency, its programming priorities, and its political tendencies. A concrete example involved RTVE, the public television broadcaster in Spain. When the center-right Popular Party (PP) came to power in 2011, it set about reversing some of the safeguards of impartiality that were instituted under the center-left Socialists (Manfredi & Artero, 2014, p. 166). The country's economic crisis accelerated what the researchers characterized as a "counter reform" of RTVE, and the PP-dominated Congress began by cutting RTVE's tax-funded budget by 17% over the previous year, or $160 million. Much international coverage has been reduced or eliminated in regional affiliates. In 2012 the Congress changed the selection process for the president and board of directors of RTVE so that their political affiliation was more important than other qualifications. (pp. 166-167).

## Pricing in digital media

Digital media promised to remove some of the unknowns about the audience that were built into the measurement systems used by television and print media. By using freely available tools such as Google Analytics and others, the theory went, an Internet publisher could precisely measure the volume and behavior of its users. The main tool was the "cookie" that publishers' software placed on users' browsers to see how many times they visited a website, which pages they viewed, and how long they stayed on each. With this information, a publisher could tell advertisers how many visitors viewed a page on which their ad appeared (an impression). Publishers would charge advertisers using the traditional metric used across all media, namely CPM, or cost per thousand impressions. However, even the best of these systems had problems (Breiner, 2013). Google Analytics, the most widely used, could not measure the time of one of the most common visits, called a "bounce". A bounce is any visit in which a user looks at one page and then leaves the site without taking any action. For most news organizations, the bounce rate is significant. For example, on Jan. 7, 2016, Alexa.com reported the bounce rate was 57% for *The New York Times*, 51% for *El Pais* of Spain, 50% for the BBC, and 31% for Germany's *Bild*. Analytics records these bounce visits as lasting for zero seconds, thus pulling down the average time spent on any page measured in the system.

Another problem with web analytics tools is the measure of whether an ad has even been seen—its "viewability." When a user opens a page, many ads on that page are below the bottom of the screen and thus not viewable unless the user scrolls down. So a user might visit a page, read some of the content, and leave without ever seeing the lower part of the page that contained some ads. Nonetheless, the publisher would record those ads as impressions and the advertiser would be charged. The Internet Advertising Bureau has recognized this problem and shifted the standard for billing from "served impressions" to "viewable impressions" of ads and has come up with standards to address the technical shortcomings (IAB, 2015). However, even the IAB admits that they are inadequate.

In addition, the pricing power publishers and broadcasters enjoyed when they exercised monopolies or oligopolies and thus controlled a scarce commodity—space in print or time in a broadcast—has been wiped away in the world of digital. Digital media continue producing an oversupply of pages for advertisers to choose from, thereby driving down the price in relation to broadcast and print.

The CPM was not the only pricing standard. Publishers charged higher rates for metrics that showed the engagement of users, such as cost per click (CPC), when a user clicked on an ad; cost per action (CPA), if a user downloaded something, filled out a questionnaire, signed up for a service, or took some other action; or commission on sales directly related to the ad.

**Measuring user loyalty**

In spite of the weaknesses of these metrics, the headline numbers used by media organizations when touting their products still have tended to be monthly unique users, total visits, pages per visit, and average time per visit. These big numbers have concealed some embarrassing realities. A study by Pew Research Center found that 77% of the traffic to the top 25 news sites in the United States came from users who visited just one or two times a month (2011). If they were visiting only once or twice a month, they were not likely to be followers of the brand or loyal to the brand and thus less likely to value the brand. These were not people likely to pay for access to a brand's digital content. However, some part of that other 23% might be willing to pay, as we shall see.

A later study by Pew Research Center (2014) found that users loyal to the brand of a particular news website often represented a small percentage of the total. The study looked at direct users—those who were consciously choosing the brand by arriving at the site from a bookmark or by typing in its URL. The direct users of *The New York Times*, for example, came to the site on average just six times a month and spent 9.5 minutes per visit—less than an hour a month. They represented a little more than a third of the *Times*' audience, or 37%. Comparable figures of direct users for other news organizations were 60% for CNN, 42% for Fox News, 35% for both the BBC and NPR, and 32% for BuzzFeed. To put these numbers in perspective, the direct users of Fox News, who racked up the most time of any of these media, averaged just over 90 minutes a *month*, while Facebook was reporting its U.S. users were spending an average of 40 minutes a day checking on the website (Brustein, 2014). These figures show why publishers have been trying to build audiences on Facebook.

Before we finish debunking the most widely publicized and discussed digital metrics—again in the context of the problem of pricing journalism—let's touch on average length of visit. In a widely shared and discussed article published in *Time* magazine (2014), Tony Haile, CEO of Chartbeat, a company whose product is measurement and analysis of Web traffic for clients, presented data to make a case for why accepted Web metrics were flawed and needed change. His company analyzed 2 billion page views generated by 580,000 articles on 2,000 websites and found that 55% lasted less than 15 seconds. Publishers have traditionally touted the metric of total page views when pricing their products to advertisers, and Chartbeat's data was calling into question the value of more than half the visits. Haile obviously had a vested interest in promoting new metrics, collectively known as the "attention web" (para. 6), which measures such things as how users scroll through an article, where they pause, and more. The "attention web" touted by Haile would measure not just visits and views but the nature of those visits and views.

### Migration of users and advertisers to mobile

Further complicating the pricing of accountability journalism has been the stampede of users and advertisers to mobile platforms. Advertisers and digital publishers—which include legacy print and broadcast media as well as pure player digital media—have been at odds over how to calculate the size of the mobile audience, and thus how to price the service. Existing technology has been unable to track users effectively on mobile devices, especially when they are using applications (Breiner, 2015a, 2015c).

Nic Newman, writing in the Reuters Institute's *Digital Journalism Report for 2015*, made no bones about the importance of mobile journalism to the future of news. The study looked at digital trends in 12 countries—eight in Europe plus the United States, Japan, Australia, and urban Brazil. Almost half of smartphone users in the 12 countries (46%) were using their devices to access news every week. Meanwhile, the time that users spend on non-voice mobile has grown to 2 hours 54 minutes daily, which is still behind TV (4 hours and 11 minutes), but has gone far ahead of print (30 minutes) (eMarketer, 2015a). And the last piece of data in this equation is that digital advertising on mobile devices was expected to exceed that on the desktop for the first time in the United States in 2015, according to eMarketer (2015b). Significantly, ad spending on mobile—a total of $30.5 billion—exceeded all print advertising for the first time.

The audience and the advertisers are on mobile, and digital publishers need to find a way to capture both. However, advertisers and publishers are dealing with two other major issues that affect pricing—digital advertising fraud and ad blockers. *Bloomberg Business Week* reported that digital ad fraud totaled $6.3 billion in 2014 (Elgin et al., 2015), and *Ad Age* published an estimate that one-third of all traffic to Web publishers was by bots, not humans, and thus fraudulent (Slefo, 2015).

On top of the fraud issue is that of digital media consumers using ad blockers, in effect reducing the size of the audience that publishers can claim in charging for their advertising. Adobe and PageFair cooperated on a study that found 200 million people globally were using ad blockers in 2014, including about 16% of Internet users in the United States, 21% in the United Kingdom, and 25% in Germany. Overall the use of ad blockers increased 41% from a year earlier, the study found, and ad blocking was expected to cost publishers $22 billion in revenue in 2015 (PageFair, 2015).

Publisher anxiety about ad blockers shot up in September 2015 when Apple released its new operating system for mobile devices, which allowed for easy blocking of ads. The anxiety stemmed from the fact that 43% of all time spent by U.S. users on mobile websites was on Apple's operating system (Marshall, 2015). Apple's innovation, and the growing use of ad blockers generally, provoked Jason Kint, the CEO of Digital Context Next, the leading online publishers association in the United States, to declare his level of concern at "eight or nine" on a scale of 10 (Kint, 2015, para. 3). He blamed publishers themselves for allowing third-party advertising networks to ruin the mobile user experience by serving up ugly, annoying ads that took forever to download.

## Advertisers flee news media

Meanwhile, advertisers continued shifting their dollars from the news media toward digital platforms. Facebook and Google had 40% of all digital advertising globally in 2014, and 72% of all mobile advertising (eMarketer, 2014). Google, Facebook, and other technology platforms are far better than news publishers at targeting ads toward a user's tastes, interests, habits, economic status, geographic location, and many other factors because those platforms know more about the publishers' users than the publishers themselves.

Publishers have become dependent on Google and social media to distribute their content to users. In the Reuters 2015 study, more than half of the consumers in nine of the 12 countries accessed news through social networks and search, while in only three countries did most users go directly to the news publisher (p. 75). In this context, the publishers have become simply content providers that the digital platforms use to monetize their own audiences. In 2015, Facebook took the dependency a step further. Its engineers had noticed that when users of its mobile application clicked on links to news articles, the load time was so slow that users often abandoned the articles (Contine, 2015). So Facebook decided to ask news publishers to give their articles directly to the social network with no link back to their own websites in order to improve user retention. As an incentive to divert traffic from the publishers' own websites, Facebook offered them a share of revenue from ads served next to those articles. Facebook called the service Instant Articles and signed up major publishers, including *The New York Times*, *National Geographic*, and BuzzFeed.

Facebook's competitors reacted quickly. Google, Snapchat, Twitter, and Apple announced plans for similar services, all of which fall under the category of "distributed content." Publishers have jumped at the offers, which some media observers have viewed as a surrender of their brands to the platforms. Mathew Ingram of Fortune, a longtime analyst of digital media business, worried that while the publishers would gain some exposure and possibly some revenue from Instant Articles, they would lose their brand identity and their institutional value as part of the Fourth Estate:

> What the social network has to offer is unquestionably going to help any of those publishers who sign up (and that in turn will create an incentive for others to do so). The risk is that it will wind up helping Facebook more, and that eventually Facebook—a for-profit company that has shown no evidence that it actually understands or cares about "journalism" per se—will become the trusted source of news for millions of users, rather than the publications that produce content (Ingram, 2015, para. 15).

It is not just the platforms that have deprived journalism of its advertising subsidy. The brands themselves have bypassed the news media to create their own websites and marketing campaigns. Numbers tell the story. Ad Age listed the top 10 video ad campaigns for 2015, which racked up from 76 million views for Samsung's Assemble to 295 million views for Facebook's "What's on your mind" (Madov, 2015). Spain's fastfashion retailer Zara has 8.7 million followers on Instagram and does not buy advertising. Brands have decided that they don't always need the media.

### The argument for public subsidies

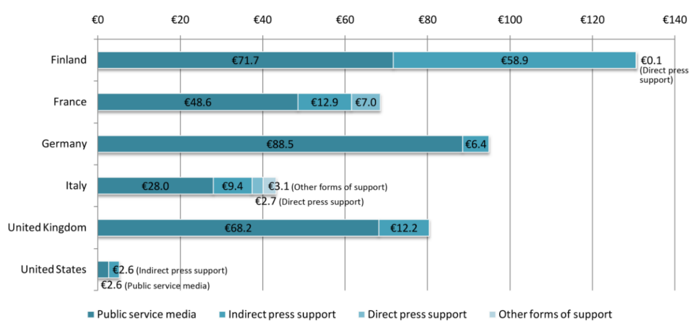
Some economists and public policy experts would argue that accountability journalism is a public good like national defense or the highway system or public education. Public goods are goods and services like streetlights that benefit everyone and that everyone needs but that the marketplace cannot provide: not everyone can afford to pay for them, and no business can serve everyone and make a profit. The argument for journalism as a public good is that it represents a pillar of democracy, the Fourth Estate, a counterweight to political and economic power. This important public role, as we have seen, used to be subsidized by advertising.

Research by Nielsen and Linnebank (2011) provided data to examine the question of journalism as a public good. They studied the direct and indirect government subsidies of the media in six countries that represent a broad range of approaches and levels of support—Finland, France, Germany, Italy, the United Kingdom and the United States.

> Total public sector support for the media measured in euros per capita per annum range from a high of $191 (€130.7) in Finland to a European low of $63 (€43.1) in Italy. The United States, where private sector news media organizations have cut their newsrooms significantly over the last decade, is the country with by far the least extensive system of public support, amounting to an estimated total of $7.6 (€5.2) per capita (p. 4).

In effect, each country has established a price that they are willing to pay for journalism using different economic, social, and political factors.

**Figure 3.1. Total public support for the media (2008)**




*Graphic: Figures are per capita. Source: Nielsen & Linnebank (p. 16). Permission granted to republish.*

The biggest subsidies in all countries are public service funding to broadcast media, indirect subsidies through reduced taxes (mainly on single-copy sales and subscriptions), and reduced postal rates. Nielsen and Linnebank observed that “the main forms of public support in place today remain the same as they have been for thirty years or more, and are heavily weighted in favor of long-established legacy players and industry incumbents” (2011, p. 15). While supporting legacy media could be viewed as a negative, they concluded that the subsidies might be justified as a public service, given the high reach of newspapers and broadcast TV in the countries studied—44% to 79% of the population got news from newspapers in the previous week and 75% to 97% from TV. These media were “absolutely of central importance” to informing people in these countries, they concluded (p. 20).

While Nielsen and Linnebank made a case for the media subsidies of Nordic countries, Picard argued (2007) that the massive newspaper subsidies there have not always achieved the desired results of increasing circulation or preserving the number of titles (pp. 242-244). Publishers have often perverted the Nordic newspaper subsidies in ways that defeat their public service purpose but serve the publishers’ goals of profitability, he said.

The United States has a long tradition of opposing public subsidies to the media for economic and ideological reasons. House Speaker Paul Ryan, a Republican, is expected to continue to attempt to defund the Corporation for Public Broadcasting (television) and National Public Radio (Mook, 2015). However, McChesney (2013) has tried to make a case for them by arguing that the goal of supporting the news media should be the strengthening of a democratic society. In that context, he tried to show a correlation between government subsidies of media and stronger democracies. He turned to *the Economist*’s Democracy Index, which showed the United States ranked 19th among democratic countries when considering factors such as civil liberties, political participation, pluralism, and others. “The top four nations on the list—Norway, Iceland, Denmark, and Sweden—include two of the top three per capita media subsidizers in the world, and the other two are dramatically ahead of the United States”, he wrote (para. 17).

### Digital startups

As advertising and subscription revenues have shrunk, and as commercial media have responded by reducing staff and accountability journalism, many new digital media organizations have sprung up around the world to till the gap. Their value propositions are usually exclusive content—often local news—editorial independence, a community mentality that puts users first, and a closeness to their audience, as in a club. These ventures benefit from the low barriers to entry—no need to buy a printing press, a fleet of trucks, a TV antenna, or state-of-the-art studio equipment. They make use of low-cost, freely available production and distribution tools on the Web.

Foundation money has been a stimulus to digital news media in the United States, and it marks a significant difference from other countries in the way these startups have been funded. However, the amounts are relatively small compared to media revenues as a whole. J-Lab tracked $249 million in grants awarded by 279 foundations to 308 nonprofit news organizations over an eight-year period (2013). That $249 million—an average of $31 million per year over eight years—is a drop in the bucket compared to the roughly $1.75 billion annually in direct and indirect government subsidies granted to U.S. media organizations, mainly legacy media (Nielsen & Linnebank, 2011, p. 8)

Researcher and consultant Michele McLellan has identified some 275 digital media organizations (2015a) in the United States that meet the criteria of "progressing on three fronts—content, management, and revenue" (2015b, para. 4). In a survey completed by one-third of those publishers, McLellan found that most were quite small, generating $100,000 a year or less, but they reported steady growth in revenues and audience. Thirteen percent of the publications listed their tax status as nonprofit, 48% were for-profit and the rest did not report that information. McLellan found that 72% of these new digital organizations generated most of their revenue from advertising, which made them extremely vulnerable, in her opinion. Subscriptions or memberships were the main revenue source for only 6% of the publications.

In the United States, the *Texas Tribune* is recognized as one of the most successful nonprofit digital news organizations. It was launched in November 2009 by software investor John Thornton and magazine editor Evan Smith, who raised $4 million in private contributions as seed funding. The publication has grown to employ 50 reporters covering politics, public policy, and government. It has been held out as a model because of its "revenue diversity, entrepreneurial creativity, and a shared sense of editorial and business mission" (Batsell, 2015, p. 3). In its fourth year, the *Tribune* generated $5.1 million in revenue, with 45% from sponsorship and events, 34% from philanthropic sources, 13% from membership, and 8% from syndication, subscriptions, crowdfunding, and other sources (pp. 7-10).

That kind of U.S. model won't work as well in most other countries, where foundation money is not as readily available. Across the Atlantic in Spain, where political and business interests heavily influence news coverage, *Eldiario.es* has marketed itself as an independent news source. CEO Ignacio Escolar founded the digital publication in 2012 and the journalists themselves own it. At the end of 2014, it had 37 full-time employees and profit of $330,000 on revenues of $2 million (Escolar, 2015). It generated a third of its revenue from 11,000 "partners" (*socios*) who paid $66 a year for the privilege of being able to read articles several hours before non-paying users, and other benefits. It is worth noting that the partners represented only one-fourth of 1% of monthly readers of 4.5 million, meaning that significant revenue can be generated by a small, loyal part of a publication's online audience. Most of the rest of the revenue came from advertising.

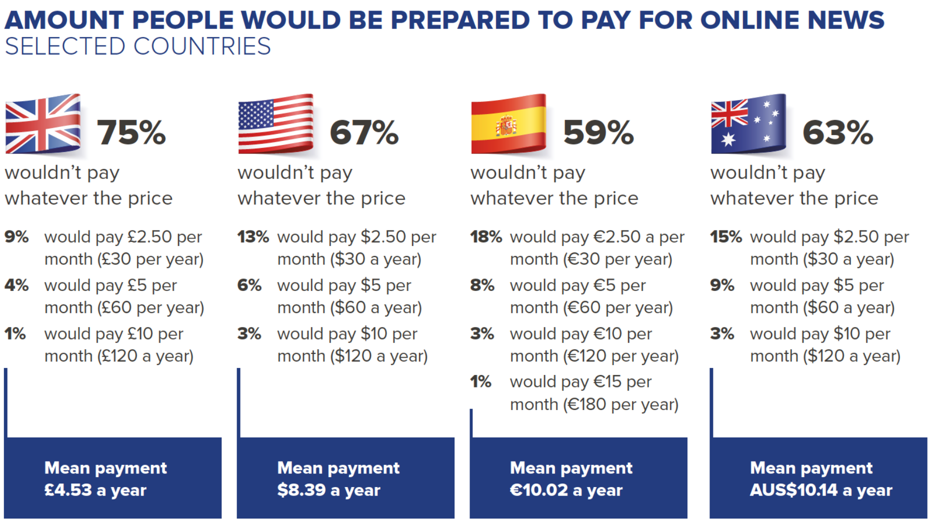
## Malaysia and Holland

Another entrepreneurial star in digital media is *Malaysiakini*, based in Malaysia, which was profiled for the Center for International Media Assistance (Carrington, 2015). Since its founding in 1999 by two innovative journalists, Steven Gan and Premesh Chandran, it has survived many ups and downs financially, battled government attempts to censor content, and in 2014 was reaching an audience of more than 9 million visitors a month (p. 7). Although it is published in four languages—Tamil, Chinese, Malay, and English—only the English version is behind a paywall because that audience is the one most able and willing to pay. Subscriptions totaled more than 16,000 at about $40 each annually.

The Dutch journalism platform *De Correspondent* launched in 2013 with the promise of being an advertising-free independent outlet of analysis and in-depth investigative reporting funded by annual subscriptions of €60 ($66). Almost 20,000 people responded to the initial crowdfunding campaign and generated $1.7 million, enough to hire a staff of 24. The publication has grown to 34,000 paying members, prompting publisher and co-founder Ernst-Jan Pfauth to argue that journalism can create value and earn the public trust by divorcing itself from advertising (Pfauth, 2015). The publication's annual report, like that of *Eldiario.es*, is a model of transparency, showing how it gets and spends money.

## Paywalls and micropayments

The loss of advertising and the complications of public funding are forcing digital publishers to look for ways to persuade the public to pay. Surveys and actual market behavior show that a small percentage of digital users will pay, depending on the country, the media brand, payment systems, and technology platforms. The Reuters Institute's online survey of 24,000 users in 12 countries gives some indication of the consumers' price point.




*Source: Graphic from Newman et al., Reuters Institute digital news report 2015 (p. 66). Permission granted to republish.*

The survey found that about 10% of respondents had paid for news in the previous year, ranging from 6% in the United Kingdom to 14% in Finland (Newman et al., 2015, p. 64). The survey found also that the majority would not pay for digital news at any price (see chart above). However, Picard noted later in this report that 24% of those surveyed already pay for digital news or said they would be willing to do so, which he called “a significant proportion” (Picard, 2015b, p. 92).

Digital publishers from the print industry have been using new technology to establish paywalls with varying levels of pricing, accessibility, and permeability. Financial publications such as the *Financial Times* and *Wall Street Journal* have long been among the most successful at paywalls, given the exclusivity of their content, the market-moving value of the news they produce, and the fact that many subscribers’ companies pay for the subscriptions rather than the individuals themselves (Jackson & Plunkett, 2015).

A number of companies have developed technology that allows individual print publications to experiment with various types of digital and print subscription offers in order to maximize subscription revenue. In a matter of a few years, more than half of the newspapers in the United States and Canada have now established paywalls, and one company, Piano, began to dominate the industry after a series of acquisitions and mergers. In 2014 Piano Media, which operated paywalls mainly in Europe, acquired U.S.-based Press Plus, which had established paywalls at more than 570 North American newspapers and whose clients included NBC Universal, Time Inc., McClatchy Company, EW Scripps Company, Postmedia Network Inc., News Corp. and IBT Media.

In August 2015, Piano merged with Tinypass, another competitor, to form an organization whose combined clientele includes 1,200 news and media providers on four continents (Piano, 2015). Piano’s CEO, Trevor Kaufman, estimated revenues of the combined companies at $40 million for 2015. One of the main reasons for the merger, he said, was to combine Piano Media’s sales force with Tinypass’s technology, which made it easier for publishers to identify their loyal users and offer individualized pricing options more likely to result in paid subscriptions. Kaufman anticipated growth in digital subscriptions as journalism moves away from support by advertising (Neuts, 2015).

Holland’s Blendle is a growing micropayment service in which users pay for the news they consume, but on a per-article basis. Blendle’s founders have called it an iTunes for news. Launched in 2014, it grew rapidly in its home country, expanded to Germany in 2015, and announced plans to expand into the U.S. market in 2016. *The New York Times* and German publisher Axel Springer have invested €3 million ($3.3 million) in the startup. Blendle has signed up 100 large publishers to offer their content on its platform, where users can click articles to read and automatically debit their account by €0.20 to €0.99 per article (22 cents to $1.10), with the publisher keeping 70% and Blendle 30%. The service had more than 450,000 users in Holland and Germany, two-thirds of them under 35, by late 2015 (Filloux, 2015).

## Conclusions

### Who will pay and how much

The financial setbacks suffered by journalism organizations in the last decade have raised the question of whether journalism is a business or a public service. For the moment, the market is saying that it is both. Some digital media organizations are surviving and thriving without public subsidy. However, the collapse of the traditional business model for journalism supported by advertising has resulted in a huge reduction of the kind of accountability journalism necessary for a healthy democracy. The public, publishers, and policy makers are asking whether the marketplace is capable of supplying that journalism or whether some other sources of funding, such as public subsidies, will be needed.

Filling the revenue gap has been difficult. Digital advertising has been a contributor, but not always the most important one, to the revenue streams of most digital media organizations. It has taken the form of traditional display, sponsorships, or so-called native advertising that mimics the storytelling of journalism. Meanwhile, digital platforms such as Google, Facebook, Apple, Amazon, Snapchat, Instagram, and others have taken over an ever-growing share of digital advertising. Their priorities are commercial—maximizing shareholder value—so they are unlikely to provide the kind of public-service leadership that traditional news organizations could offer with the help of the advertising subsidy. At the same time, advertisers themselves are bypassing the news media to take their messages directly to the public. If that were not enough, advertisers and the public have flocked to mobile devices, which have created complicated problems for publishers in measuring and monetizing their audiences. As a consequence of all this, the press as a pillar of civil society, the Fourth Estate, has been far less able to serve its communities by ensuring that public institutions are providing justice, economic opportunity, public safety, and quality services.

The question of what that information is worth and who will pay for it is being answered in a variety of ways. Paywalls for digital news are providing part of the answer. News consumers realize that they have lost accountability journalism, but the majority have not accepted that they should be the ones to support it financially. Given that the public has been trained to think of online news as free, changing that perception will be difficult.

The Blendle service described earlier is perhaps the closest thing to a pure economic marketplace for journalism. Users don’t have to buy a subscription for an extended period. They pay only for what they consume. They can choose the articles and videos they are interested in from a large and growing selection of media brands, they can see the price of that content, and they can purchase with one click and consume it. And the publisher gets revenue from each of these purchases. The rapid adoption of the service by both users and publishers indicates that it is filling a need. However, the service represents a tiny fraction of the media market.

Digital journalism outlets that focus on accountability journalism are providing part of the answer. These media have demonstrated a value proposition that sets them apart from all of the fluff, entertainment, and socializing on the Internet. The digital news organizations that have developed a brand reputation for producing high-quality journalism, such as *De Correspondent*, *Eldiario.es*, *Texas Tribune*, and *Malaysiakini*, among others, have been successful when asking their audiences to support them with a subscription, “membership,” or “partnership” contribution. Their credibility is their most important asset in the marketplace, and they reinforce it by being transparent with their audiences about the source and destination of the revenue they generate.

These organizations have developed revenue streams beyond advertising. They have tended to be more innovative than the traditional news media, freed as they are from the burdens of debt and ownership of office buildings, production facilities, and transportation systems. The best and most successful ones have offered news products that are narrowly focused on a geographic area or a topic; they have differentiated themselves by their research, analysis, multimedia, data visualization, or writing; and they have distinguished themselves with their editorial independence from the dominant political and economic powers. Their example shows that digital news media—and all media are becoming digitally focused—can be financially successful, in spite of the collapse of the traditional business model. Still, most are small compared to traditional media. They have not begun to replace all that has been lost.

Public subsidies will likely continue to support media, especially TV, in countries where it has always been a force. But in the United States and other countries that have traditionally rejected subsidies on ideological and economic grounds, they are unlikely to emerge as a new revenue source.

New technological developments could further complicate the digital publishers’ quest for support of this necessary and expensive product we know as public-service or accountability journalism. Or technology could accelerate its recovery. The quest continues, and while it is difficult to predict where the winds of change are taking publishers, there are reasons for optimism. Many users are finding they are willing to pay the price.

*Note: All the euro-dollar conversions in article are based on the $1.46 to the euro, which is the figure that Nielsen and Linnebank used at the time of publication.*

## References

Barthel, M. (2015). Newspapers: Fact sheet. In *State of the News Media* 2015. Pew Research Center. Retrieved from http://www.journalism.org/2015/04/29/newspapers-fact-sheet/

Barwise, P., & Picard, R. G. (2015). The economics of television: Excludability, rivalry, and imperfect competition. In Handbook on the Economics of the Media, Picard, R. G., & Wildman, S. S. (Eds.). Cheltenham, U.K. and Northampton, Mass.: Edward Elgar Publishing.

Batsell, Jake (2015). *Earning their keep: Revenue strategies from the Texas Tribune and other nonprofit news startups*. Knight Foundation. Retrieved from http://features.knightfoundation.org/nonprofitnews-2015/pdfs/KF-NonprofitNews2015-Tribune.pdf

Breiner, J. (2013). Analytics is undercounting engagement of your users. *News Entrepreneurs*. Retrieved from http://newsentrepreneurs.blogspot.de/2013/12/analytics-is-undercounting-engagement.html

Breiner, J. (2015a). Mobile metrics are failing advertisers and publishers. *News Entrepreneurs*. Retrieved from http://newsentrepreneurs.blogspot.de/2015/06/marketers-are-nearly-clueless-about.html

Breiner, J. (2015b). Handful of data journalists shake up Mexican Congress. *News Entrepreneurs*. Retrieved from http://newsentrepreneurs.blogspot.de/2015/10/handful-of-data-journalists-shake-up.html

Breiner, J. (2015c). 'Desktop is the new print' as public goes mobile. *News Entrepreneurs*. Retrieved from http://newsentrepreneurs.blogspot.de/2015/06/desktop-is-new-print-as-public-goes.html#more

Brustein, J. (2015, July 23). Americans now spend more time on Facebook than they do on their pets. *Bloomberg News*. Retrieved from http://www.bloomberg.com/bw/articles/2014-07-23/heres-how-much-time-people-spend-on-facebook-daily

Carrington, T. (2015). *Advancing independent journalism while building a modern news business: The case of Malaysiakini*. Center for International Media Assistance and National Endowment for the Humanities. Retrieved from http://www.cima.ned.org/resource/advancing-independent-journalism-while-building-a-modern-news-business-the-case-of-malaysiakini/

Contine, J. (2015) Facebook starts hosting publishers' 'Instant Articles'. *TechCrunch*. Retrieved from http://techcrunch.com/2015/05/12/facebook-instant-articles/#.hpcpyjx:cBBZ

Elgin, B., Riley, M., Kocieniewski, D., & Brustein, J. (2015). How much of your audience is fake? *Bloomberg Business Week*. Retrieved from http://www.bloomberg.com/features/2015-click-fraud/

eMarketer (2014). Microsoft to surpass Yahoo in global digital ad market share this year. Retrieved from http://www.emarketer.com/Article/Microsoft-Surpass-Yahoo-Global-Digital-Ad-Market-Share-This-Year/1011012

eMarketer (2015a). Growth of time spent on mobile devices slows: Growth to slow to single-digit pace starting in 2016. Retrieved from http://www.emarketer.com/Article/Growth-of-Time-Spent-on-Mobile-Devices-Slows/1013072 eMarketer (2015b). Mobile to account for more than half of digital ad spending in 2015: Will surpass desktop for the first time this year. Retrieved from http://www.emarketer.com/Article/Mobile-Account-More-than-Half-of-Digital-Ad-Spending-2015/1012930

Escolar, I. (2015). Las cuentas de Eldiario.es en 2014. Retrieved from http://www.eldiario.es/escolar/cuentas-eldiarioes-2014_6_367523258.html

Filloux, F. (2015). Blendle is up to something big. *Monday Note*. Retrieved from http://www.mondaynote.com/2015/10/05/blendle-is-up-to-something-big/

Haile, T. (2014). What you think you know about the web is wrong. *Time*. Retrieved from http://time.com/12933/what-you-think-you-know-about-the-web-is-wrong/

IAB, Internet Advertising Bureau (2015). State of viewability transaction 2015. Retrieved from http://www.iab.com/guidelines/state-of-viewability-transaction-2015/

Ingram, M. (2015, May 13). Is Facebook a partner or competitor for media companies? Yes. *Fortune*. Retrieved from http://fortune.com/2015/05/13/facebook-new-york-times-instant/

International Consortium of Investigative Journalists (2015). Swiss leaks: Murky cash sheltered by bank secrecy. Retrieved from http://www.icij.org/project/swiss-leaks

Jackson, J. & Plunkett, J. (2015, February 27). *Financial Times* to change way it charges for online content. *The Guardian*. Retrieved from http://www.theguardian.com/media/2015/feb/27/financial-times-to-change-way-it-charges-for-online-content

J-Lab Knight Community News Network (2013). Grant support for news projects. Retrieved from http://kcnn.org/nmm-grants/

Kaplan, D. E. (2013). *Global investigative journalism: Strategies for support* (2d ed.). Center for International Media Assistance. Retrieved from http://www.cima.ned.org/wp-content/uploads/2015/01/CIMA-Investigative-Journalism-Dave-Kaplan.pdf

Kint, J. (2015). 7 important ad blocking issues you need to know. Digital Content Next. Retrieved from https://digitalcontentnext.org/blog/2015/09/24/7-important-ad-blocking-issues-you-need-to-know/

Madov, N. (2015). Facebook's 'What's on your mind?' was the most-viewed video campaign of 2015: See the Top 10. Ad Age. Retrieved from http://adage.com/article/the-viral-video-chart/see-brands-top-10-video-campaigns-2015-facebook/301904/

Manfredi, J. L., & Artero, J. P. (2014). New business models for the media: The Spanish case. In Psychogiopoulou, E. (Ed.), *Media policies revisited: The challenge for media freedom and independence*. New York, NY: Palgrave MacMillan.

Marshall, J. (2015, August 28). Apple's ad-blocking is potential nightmare for publishers. *Wall Street Journal*. Retrieved from http://blogs.wsj.com/cmo/2015/08/28/apples-ad-blocking-is-potential-nightmare-for-ad-sellers/

McChesney, R. (2013). *Digital disconnect: How capitalism is turning the Internet against democracy*. New York, NY: The New Press. Retrieved from http://www.utne.com/media/press-subsidies-ze0z1501zhur.aspx

McLellan, M. (2015a). The 2015 state of local news startups. CUNY Graduate School of Journalism, Tow-Knight Center for Entrepreneurial Journalism. Retrieved from http://towknight.org/2015/07/the-2015-state-of-local-news-startups/

McLellan, M. (2015b). Michele's List: Building blocks in the emerging local news ecosytem. CUNY Graduate School of Journalism, Tow-Knight Center for Entrepreneurial Journalism. Retrieved from http://www.micheleslist.org/pages/1

Mook, B. (2015). New House Speaker Ryan has track record of opposing funds for public broadcasting. *Current*. Retrieved from http://current.org/2015/11/new-house-speaker-ryan-has-track-record-of-opposing-funds-for-public-broadcasting/

Neuts, D. (2015). Q&A with Piano CEO Trevor Kaufman. Subscription Insider. Retrieved from http://www.subscriptioninsider.com/public/QA-with-Piano-CEO-Trevor-Kaufman.cfm

Newman, N., Levy D. A. L., & Nielsen, R. K. (2015). *Reuters Institute digital news report 2015: Tracking the future of news.* Reuters Institute for the Study of Journalism. Oxford. Retrieved from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/Reuters percent20Institute percent20Digital percent20News percent20Report percent202015_Full percent20Report.pdf

Nielsen, R. K., & Linnebank, G. (2011). *Public support for the media: A six-country overview of direct and indirect subsidies*. Reuters Institute for the Study of Journalism. Retrieved from http://reutersinstitute.politics.ox.ac.uk/sites/default/files/Public%20support%20for%20Media_0.pdf

PageFair (2015). The 2015 ad blocking report. Retrieved from https://blog.pagefair.com/2015/ad-blocking-report/

Pew Research Center (2011). Casual news readers online. Retrieved from http://www.pewresearch.org/daily-number/casual-news-readers-online/

Pew Research Center (2014). 5 key findings about digital news audiences. Retrieved from http://www.pewresearch.org/fact-tank/2014/03/17/5-key-findings-about-digital-news-audiences/

Pfauth, E. (2015). How subscription models lead to more trustworthy journalism. Tinius Trust. Retrieved from https://tinius.com/blog/how-subscription-models-lead-to-more-trustworthy-journalism

Piano (2015). Piano Media and Tinypass merge. Retrieved from https://piano.io/media/Piano_Press_release.pdf?v=1451928833

Picard, R. G. (2007) Subsidies for newspapers: Can the Nordic model remain viable? In Bohrmann, H., Klaus, E., & Machill, M. (Eds.). *Media industry, journalism culture and communication policies in Europe*. Koln, Germany: Herbert von Halem Verlag. Retrieved from http://www.robertpicard.net/PDFFiles/subsidiesnordicmodel.pdf

Picard, R. G. (2015a). Economics of print media. In *Handbook on the economics of the media*,

Picard, R. G., & Wildman, S. S. (Eds.). Cheltenham, U.K., and Northampton, Mass.: Edward Elgar Publishing.

Picard, R. G. (2015b). The business outlook: Constraints on growth, but some hopeful signs in digital news provision. In Newman, N., Levy D. A. L., & Nielsen, R. K. (2015).

Reuters Institute digital news report 2015: Tracking the future of news. *Reuters Institute for the Study of Journalism*. Oxford. Retrieved from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/Reuters percent20Institute percent20Digital percent20News percent20Report percent202015_Full percent20Report.pdf

PR Noticias (2014). *11.145 periodistas despedidos y 100 medios cerrados: Triste balance de siete años de crisis*. Retrieved from http://prnoticias.com/periodismopr/442-un-ano-de-eres-1/20132555-11145-periodistas-despedidos-y-100-medios-cerrados-el-triste-balance-de-siete-anos-de-crisis-en-los-medios

Slefo, G. (2015). Report: For every $3 spent on digital ads, fraud takes $1. *Advertising Age*. Retrieved from http://adage.com/article/digital/ad-fraud-eating-digital-advertising-revenue/301017/

***James Breiner** is visiting professor of communication at the University of Navarra (Spain), where he teaches Media Economics, Multimedia Communication, and Digital Journalism. He is also a digital media consultant with a specialty in entrepreneurial projects. Previously he was co-director of the master's program in Global Business Journalism at Tsinghua University in Beijing, China. As a Knight Fellow for the International Center for Journalists, he founded and directed the Center for Digital Journalism at the University of Guadalajara in Mexico. He has had a long professional career as a newspaper reporter, editor, and publisher, most of that with the Baltimore Business Journal and Business First of Columbus. As special projects editor at the Columbus Dispatch, he directed an investigative journalism team that won numerous awards from the Associated Press of Ohio.*

# Six Things You Didn’t Know About Headline Writing: Sensationalistic Form in Viral News Content From Traditional and Digitally Native News Organizations

*Danielle K. Kilgo and Vinicio Sinta*

*From the listicle to the personalized headline, sensational form has become prevalent in online content. Interacting with online news articles through liking, sharing and commenting is one of the most popular social media forms of audience interactions with news organizations in modern times. Using a content analysis of viral Facebook news articles, this study examines the degree to which sensational forms appear in headline writing, including forward referencing, personalization, “soft” news structures and listicles. Findings suggest that while both types of organizations use these strategies, digitally native organizations are more likely to employ sensationalistic tactics in headlines while traditional organizations are more likely to appear in viral news for breaking stories. The discussion suggests that audience preference and expectation from specific news organizations may indicate content success.*

## Introduction

From the list of “6 things you must know” before doing a particular activity like water skiing or voting in the next election to the personalized headlines of today that beg you to read this, sensational form is paving the way for new content presentation, and driving engagement with online audiences. Headlines that use this type of language, ostensibly designed with virality in mind, are part of various news organizations’ strategies to reformat content for social media environments. Features like the use of forward referencing, personalization, and “listicle” structures are engaging, yet provoking, sensational strategies that entice readers to click, and then read online articles.

Enticement through headline writing and sensationalistic strategies is certainly nothing new, yet content structured through lists, personalization, and other sensational forms, are increasingly found among shared social media stories. For example, *BuzzFeed* has made a name for itself as the king of the viral “listicle” (Alpert, 2015), although list-form formats for texts are well established in our literary history. While some render *BuzzFeed* strategies “clickbait,” the company has vowed to take news and news distribution seriously, even if it means including tactics such as those mentioned previously. And, although all news organizations have not unanimously adopted these tactics, these pragmatic and structural devices are now more ubiquitous than ever. The purpose of this study is to determine the characteristics of viral news—news that has been evaluated highly by social media audiences, specifically those in Facebook.

The concept of sensationalism has been connected with appeals to audience emotion (Haskins, 1984), and sensational tactics and content have been useful in grabbing audiences' attention. In the current digital and social media environment, news organizations and content providers are increasingly competing for attention and interaction with content from readers through social news sharing, liking and commenting. Content with the highest penetration and interaction numbers are often considered viral. However, the strategies for creating viral online content are volatile, and success depends on a number of considerations. Because sensationalism is coined as a tactic news organizations use to grab readers attention, this research explores the degree to which sensational tactics may appear in the most viral content within social media.

This article uses the overarching dynamics of journalism converged into a digital world to explore the audience preference to certain forms of sensationalism. Sensational form—the way things are written to exploit readers' curiosity—has received less fierce criticism in the canon of academic scholarship that criticizes sensationalism. Despite the distaste for the industry, sensationalism has successfully captivated audiences' attention, and many of the most prolific purveyors of "click-bait" and viral content are leaders of Web traffic and social media sharing in recent years (Cresci, 2014; Salmon, 2014; Sonderman, 2012). Thus, in digital environments and social media arenas, are these increasingly familiar sensationalistic forms rising to the top of the viral news pulpit? Are "traditional" and digitally native publications adopting these strategies, and do social media audiences welcome these practices?

We begin with a literature review of the state of online journalism and the emerging differences between digitally native and traditional organizations and their online presence, followed by a review of sensationalism and emerging sensational forms of news presentation. We then describe our methods and results of a content analysis of viral news from five traditional and two digitally native news organizations in 2014. Our research aims to discover the degree to which sensational form appears in viral news, and the characteristics of these strategies as they appear in online journalistic outlets.

The findings of this study help highlight the prevalence of these sensational forms, and their use by various types of news organizations in the most shared news content of specific news organizations in 2014. Additionally, this examination furthers conversations about the convergence of practices by traditional media organizations into digital spaces.

## Participatory Journalism and Social News

Online news has revolutionized the amount of interactivity between audiences and media platforms. News content in the online sphere entices people to engage, redistribute, and discuss news, especially in social environments. Social media play important roles in influencing public participation with online news and thrives on constant interactive and engaging content (Antony & Thomas, 2010; Bennett, Breunig, & Givens, 2008; Boulianne, 2009; Nah, Veenstra, & Shah, 2006). Some news organizations maintain and adhere to traditional journalistic online practices (Deuze, 2003; Hermida & Thurman, 2008). However, many news organizations publish aggressively across media platforms, from online sites to social media to mobile applications (Bechmann, 2012; Wolf & Schnauber, 2014). Successful convergence of these practices to the digital realm requires adapting uses and methods to connect successfully with a wider target population (Domingo et al., 2008; Klinenberg, 2005; Lawrence et al., 2013).

Online journalism often incorporates audiences through participatory content creation, engagement tactics, and networked distribution channels. While most online media offer new venues for interaction with readers, social media platforms have expanded the realms in which news organizations can engage and preserve audiences (Suau & Masip, 2013). This new digital area has left many traditional news organizations struggling to maintain their traditional norms and values. Despite the new dynamics of the digital world, traditional media outlets tend to continue to default to traditional journalistic standards (Deuze, 2003; Domingo et al., 2008; Hermida & Thurman, 2008). Studies reveal, for example, that offline content typically was shoveled online "as is," with journalists failing to take full advantage of the Internet's multi-way communication potential, instead using online platforms as merely another venue for dissemination. However, as digital news consumption has increased among audiences, these dynamics have changed.

Two types of news organizations have emerged as key players of online news distributors: the traditional news organization with an online presence, and the digitally native news site. For traditional news organizations, we specifically examine outlets that had established print or broadcast counterparts before embarking in the digital realm. The latter, digitally native news organizations, were not birthed from their print counterparts, but instead, existed, first, in the digital arena. The impacts and strategies of these organizations have been left relatively unexplored in academic research (Revers, 2014). Digitally native organizations have drafted new strategies for engaging audiences, challenging journalistic norms in the digital sphere, and conquering online interactivity with audiences. A recent Pew Research Center report (2015) revealed that digitally native organizations audience rankings surpass traditional media counterparts. Among the most successful cases are publications such as U.S.-based *BuzzFeed* and The Huffington Post, which have taken advantage of social media platforms to disperse their content and use social media analytics to evaluate their impacts. This participatory news distribution format has been disrupting the norms of the news media industry for the online world globally, with changes ranging from a broadening of the fundamental roles and functions of a "news organization" to changing the writing style.

The social aspects of communication are essential economically as well, with online-only publications relying, largely, on clicks and shares to equal revenue. Seen through a positive lens, the democratic potential of this digital participatory journalism—journalism that thrives on two-way communication with audiences—is an unprecedented and convenient venue for increasing public awareness and knowledge (Borger et al., 2012; Bowman & Willis, 2003).

However, not everyone is an optimist. “Since its inception, online journalism has been derided as a lower form of work than traditional journalism” (Barthel, Moon, & Mari, 2015, p. 13). Social media complicates these notions, especially as journalism has incorporated social media into news distribution and evaluation (Hermida & Thurman, 2008). On the more pessimistic side of this debate, scholars argue that the online sphere does not grant increased democratic potential (Hayes, Singer, & Ceppos, 2007). Borger et al. (2012) argued that contrary perspectives focus on the degradation of journalistic quality and journalistic norms, and the blurring lines of press objectives and press financial gain. Thus, the debate about online news and the sensational aspects that accompany it is ongoing in both the scholarly and professional realms.

In the virtually unlimited space offered in online platforms, most news outlets do not face the temporal and spatial constraints associated with traditional journalism, but instead, fight to catch and keep the readers’ attention. Social evaluation, whether through subscription, reader feedback, or viewership size, is an important part of the assessment process. At the same time, though the incentives that guide production are different for various media types, Web traffic, and advertising have become major considerations for the creation and distribution of content developed in multiple spheres, including print and broadcast journalism. The relative ease and immediacy of Web analytics enable newsrooms to respond to content, better tailor practice for their audiences, and adopt news digital skills (MacGregor, 2007). The audiences’ role in assessing this information through interaction in online spheres proves to be an even more vital component to the news production agenda.

Sharing and interacting with online content is an integral part of participatory journalism practices. For example, more than half of all online content consumers exchange information with others (Allsop, Bassett, & Hoskins 2007). In online environments, the audience plays a significant role in increasing the distribution capacity of news and establishing quality standards. On social media networks, this role is fulfilled by different interactions with content, including liking, sharing, and commenting on news items. To some degree, these interactions assess quality as well as virality within a social network. This journalist-audience interaction is pivotal in creating viral news.

Berger and Milkman (2012) evaluated content characteristics of viral news, operationalizing viral news as articles that were most-shared from *The New York Times*’ website. The analysis showed that news stories with more emotional content (i.e. vocabulary), and with a positive tone were more likely to shared through e-mail. Today, this operationalization is limiting, especially because news sharing becomes a more prevalent practice in social networks than through e-mails. The present study, however, uses total interaction numbers (and for this study, these numbers come from the leading social media platform Facebook) to assess the characteristics of viral content. Using the combination of multiple types of interactions (commenting, sharing, liking) we are better able to assign a quantitative value, at the very least, of the number of times people interacted with information within this platform suggesting the potential for virality in one dominating social network.

## Sensationalism

To some extent, the negative perceptions of participatory journalism can be associated with similar arguments and negative perceptions of sensationalism. Sensationalism has been ambiguously defined for years. The term’s general classification refers to the narrative, less structured, news stories that do not fit into the typical “hard” news genre.

However, the evaluation of sensationalism is best understood by Haskins (1984) who refers to sensationalism as evoking curiosity—albeit he believes this curiosity is morbid. The morbidity of sensationalism is rather an evaluation than a characteristic of the term, and ultimately, the evaluation of sensationalism creates a debate about the concept. At one end, scholars view sensationalism as a model for showing decency by exploiting the extreme (Stevens, 1985). At the other end, journalism critics have held harsh sentiments toward sensationalism, regarding it as a contributor to a news “sewer,” degrading and dumbing down the minds of readers everywhere (Adams, 1978; Bernstein 1992; Slattery & Hakanen, 1994). In these instances, sensationalism is akin to the stories found in tabloids, and at the core of their arguments is the content, not the structure. By removing the evaluation, and focusing directly on the notion that sensationalism is a form that evokes curiosity, we can examine this term as a more legitimate strategy in emerging journalism practices. Thus, this research builds off of Haskins’ (1984) assertion that sensationalism uses tactics that evoke curiosity.

The increased prevalence of sensationalistic journalism in the digital realm intentionally seeks to engage audiences through simplistic, attractive content that drives audience emotion or peaks interest. In an explication of sensationalism, Grabe and colleagues (2001) argued that the concept deals with both form and content. Regarding content, sensational stories are described as focused on celebrities, crime, and social taboo (Davie & Lee, 1995; Shaw & Slater, 1985). Form is identified by the techniques—writing and visual—that help present stories in a sensational way. Specifically, we look at particular stylistic and curiosity-evoking forms and article structures in which sensationalism might thrive: soft news structures, personalization, forward referencing and listicles.

**“Hard” and “soft” news**. “Hard” and “soft” news articles tend to address vastly different new values. Soft news stories have been considered simplistically as the counter to all news that is not considered “hard.” Soft news includes stories deviating from the news formats typical before the pre-1980 advent of cable/satellite network and Internet presentation of news (Baum, 2002). At the core of soft news are tactics identified with sensationalism: shock, intrigue, and curiosity. According to Patterson (2000), soft news articles are centered on human-interest stories and sensationalistic features. Additionally, soft news articles are structured in a way that leads to more narrative styles of writing, a form much less rigid than breaking news stories. Hard news stories typically include breaking events, invoke values of timeliness and importance, and adhere to the inverted pyramid design, and thus are less likely to include sensational topics.

**Forward referencing.** Blom and Hansen (2015) argued that many headlines include the linguistic facets of forward referencing. Forward referencing is the "reference of forthcoming (parts of the) discourse relative to the current location in the discourse" (Blom & Hansen, 2015, p. 87). This strategy identifies an object without first giving it a definition, using pronouns and demonstrative adjectives instead, leaving the actual subject as a mystery. This form is substantively different to the traditional journalistic headline which typically identifies the "who" or "what" central to the news story. For example, a headline that reads, "Listen carefully. This is what rape culture sounds in America" does not define what "this" is—and therefore evokes curiosity through form. These tactics use a form of provoking reader interest by introducing information gaps that entice to click on the headline. Examples of forward-referencing illustrate the variety of ways in which users can generate curiosity and suspense, tempting some readers to continue reading to find out information that would have traditionally been already available in a more traditional headline. In their study of Danish publications, Blom and Hansen (2015) found forward-referencing techniques present in about 17.2% of articles. The authors' measures of forward-referencing were adapted in this study, and were used to examine the presence in viral media.

**Personalization.** Another potential curiosity-driving element of sensationalism is personalization: news that addresses the reader directly. Mateson (2004) argues that outlets such as *The Guardian* created weblogs that bridge gaps with the reader by building interpersonal relations. One way in this interpersonal relationship thrives is though an inclusive and explicit use of personal pronouns. Lauerbach (2009) contends that this personalization of information is an intentional effort to connect with audiences on an intimate level. Additionally, imperative sentences that have understood subjects are forms of personalized headline writing. We argue that this strategy also evokes curiosity in readers by identifying personally with the reader, and could also be considered a form of sensationalism. Personalization creates an invitation for audiences to not only read, but also engage on a personal level—not a traditional value of news.

**Listicle structure.** Published in 1989, "The 7 habits of highly effective people" is still a widely popular book—its shelf life extending well into its second decade as a best seller. Revered for its clear and concise yet moving content, the text is perhaps a prime example of the editorial markets' "viral" listicle—or arrangement of information in a list article (or book). Headlines for listicles typically begin with a cardinal number and organize information in the form of a list. While BuzzFeed is often credited as the king of the listicle in the online news sphere (Alpert, 2015; Cresci, 2014), the inclusion of this type of content in news outlets has grown in recent years.

Listicles are also derided for their role as part of a trend of degradation in content quality. In a listicle article itself, Poole (2013) discussed whether listicles were the first steps to unraveling the "very fabric of written culture." Still, the listicle has also been hailed for its simplification of information, and its ability to be read in nonlinear form, despite the apparent negativity it garners from critics, and to some extent, news organizations have produced content using this structure (Alpert, 2015). Information in listicles is organized into a concrete number of items: 7 habits, 10 things, 11 ways. Listicles entice the reader provide a useful structure for a seemingly comprehensive analysis of an issue with brevity.

**Research Questions and Hypothesis**

The overall question guiding this study is the degree to which news audiences in social media environments interacted with content that was structured sensationally. We examine each sensational form—soft news, forward referencing, personalization and listicles—as indicators of the degree to which sensational form might contribute to overall virality. We then examine each form for their presence in digitally native and traditional publications as indicators of possible deviation in audiences’ preferences for news structure.

**RQ1: To what extent do hard and soft news appear in viral headlines?**

**RQ2: How do hard and soft news strategies appear differently in viral news between traditional and online native publications?**

**RQ3: To what extent does personalization appear in viral headlines?**

**RQ4: How do personalized strategies appear differently in viral news between traditional and digitally native news organizations?**

**RQ5: To what extent do listicles appear in viral headlines?**

**RQ6: How do listicles appear differently in viral news between traditional and digitally native news organizations?**

**RQ7: To what extent does forward referencing appear in viral headlines?**

For the concept of forward referencing we can hypothesize possible news organization preferences by advancing Blom and Hansen’s (2015) work which showed that forward-referencing is more often used in soft news than in hard news, and in tabloid and commercial news organizations than traditional outlets.

**H1: Forward referencing is more likely to appear in soft news stories.**

**H2: Forward referencing is more likely to appear in digitally native publications.**

## Methods

To answer the research questions and test the hypotheses presented above, we conducted a content analysis of content and structural characteristics of online headlines from seven news organizations.

***Data and sampling.*** A subscription was purchased from NewsWhip, a media analytics data company that catalogs social media interactivity on content of more than 100,000 news organizations, including the degree to which individual articles are shared, “liked,” and commented social media platforms (NewsWhip’s Social Publisher Rankings – Methodology, 2014). The subscription allowed the researchers access to download content from a set list of news organization tracked by Newswhip. Ultimately, seven media companies were purposefully selected for the study. Five of these are “legacy” media—news organizations that were prominent before the advent of online media and that continue to be known primarily for their offline products: newspapers *The New York Times* and *The Guardian* and television networks CNN, Fox, and the BBC. The other two media organizations included in the sample are “online-native” content providers based in the United States: *The Huffington Post* and *BuzzFeed*.

We identified potential viral or highly valued news articles by isolating the top 600 most viral stories news stories with the highest sum of social media interactions on Facebook (total number of comments, shares and likes) for the year 2014 from all seven publications. While we acknowledge other social media platforms are can be critical players in spreading viral news, we isolate Facebook because it is the largest social network in the world, and because social media platforms each have distinctive cultures and audiences, and thus what is viral on one network may not be viral within another. Articles averaged about 39,000 total marked interactions (M = 39004.1, SD = 68576.1). After eliminating three duplicate entries we were left with 597 items for coding: 55.3 percent from digitally native publications (n = 330) and 44.7 percent from traditional publications (n = 267). The number of items coded from each individual news outlet is as follows:

*The Huffington Post* (n = 154); *BuzzFeed* (n = 156); Fox (n = 102); CNN (n = 40); *The New York Times* (n = 50); BBC (n = 32); and *The Guardian* (n = 43).

***Coding.*** Coding featured the following variables: source, hard news/soft news, personalization, forward referencing and listicles. After three rounds of testing and refining the aforementioned measurements, coders, all authors of this paper, ran inter-coder reliability tests with a series of items that account for slightly under 10% of the total sample (n = 50). Cohen’s kappa was used to calculate inter-coder reliability between two coders, both authors of this study (Neuendorf, 2002). The results of this ICR test were satisfactory according to Poindexter and McCombs (2000), with reliability coefficients ranging from kappas of .73 to 1. Individual kappa scores are reported with descriptions of each variable.

***Source.*** NewsWhip data included the domain URL under which each news item was posted, as well as the date of publication. We further used the URL domains to categorize news items as *traditional media* (*NYT, Guardian*, Fox, CNN, BBC) and digitally native (*Huffington Post, BuzzFeed*) (k = 1).

***Hard/Soft News.*** Each news item was coded based on whether the news story corresponded to "hard" news stories (i.e. breaking news, public affairs reporting) or "soft" news stories, which in this case anything from non-time sensitive feature stories to quizzes and tests (k = .91).

***Personalization.*** Headlines were coded for wording that addresses (or involves) the reader directly: these could include second-person pronouns (the use of "you" or an inclusive "we"), or, alternatively, the use of first-person ("I", or a non-inclusive "we"). Example: "Foodini' machine lets you print edible burgers, pizza, chocolate" (CNN); "Reading on a screen before bed might be killing you" (*The Huffington Post*). Additionally, imperative statements, or statements that request or command information that do not include "you" in the subject but instead imply "you" in the subject, were included as a personalization or intent to specifically address the reader (k = .88).

***Forward referencing.*** Headlines were coded for the inclusion of words that allude to events or newsmakers that require reading the full article for understanding. Coders identified only situations were demonstrative pronouns such as "this"; "what"; and "why" were used before a declaration of the identifier in a headline. Some examples are: "Why most Americans oppose gun control" (Fox News); "This is what happens to your body when you're embarrassed" (*BuzzFeed*) (k = .73).

***Listicles.*** A third structural recurrent among the most viral articles in the sample was the use of lists and countdowns. These pieces, coined *listicles*, usually have headlines that describe the category of the listed items, as well as the total number. Listicle features are not mutually exclusive with forward referencing and personalization. Examples: "21 classic NYC spots that closed forever in 2014" (BuzzFeed); "25 of the best clubs in Europe, chosen by the experts" (*The Guardian*) (k = 1).

***Data Analysis.*** Descriptive statistics and chi-square analysis were run to answer most variables in this study. RQ1 and RQ2 asked the degree to which hard and soft news appears in viral headlines and this appearance variation by news organization types. Frequencies were used to identify the extent of content variations, and chi-square tests were run to understand variations in news publications. RQ3 through RQ6 asked the extent to which personalization and listicles appeared in viral headlines and their differences by news organization type. Descriptive statistics and chi-square analysis were used to answer these questions. RQ7 asked the degree to which forward referencing appeared, and was answered using descriptive statistics. H1 (Forward-referencing is more likely to appear in soft news stories) and H2 (Forward-referencing is more likely to appear in digitally native publications) were both answered using chi-squared analysis.

## Results

The first research question asks about the (RQ1) prevalence of “hard” versus “soft” news in viral headlines from 2014, and (RQ2) how their proportion varies according to the type of media outlet. The results of our content analysis showed 70.4% were “soft” news, while only 29.6% were “hard”, or breaking news.

**Table 1. Proportion of "hard" v. "soft" news topics by outlet**

| | HuffPost *n* (%) | Buzzfeed *n* (%) | NYT *n* (%) | CNN *n* (%) | Fox *n* (%) | BBC *n* (%) | Guardian *n* (%) | Total *n* (%) |
|---|---|---|---|---|---|---|---|---|
| **“Soft”** | 136 (78.2) | 148 (94.9) | 36 (72) | 17 (42.5) | 41 (40.2) | 12 (37.5) | 30 (69.8) | 420 (70.4) |
| **“Hard”** | 38 (21.8) | 8 (5.1) | 14 (28) | 23 (57.5) | 61 (59.8) | 20 (62.5) | 13 (30.2) | 177 (29.6) |
| *n* | 174 | 156 | 50 | 40 | 102 | 32 | 43 | 597 |

$\chi^2$ (6, $n$ = 597) = 126.03, $p < 0.001$

As for the prevalence of both types of news stories in traditional and digitally-native news sites, Tables 1 and 2 show that the two digitally native outlets had the highest proportion of “soft news” while traditional media sites were more likely to have “hard news” within their viral articles, $\chi^2$ (1, $n$ = 597) = 87.29, $p < 0.001$.

**Table 2. Proportion of "hard" v. "soft" news topics by outlet type**

| | Traditional % | Digitally-native % | All outlets % |
|---|---|---|---|
| **“Soft”** | 50.9 | 86.1 | 70.4 |
| **“Hard”** | 49.1 | 13.9 | 29.6 |
| *n* | 267 | 330 | 597 |

$\chi^2$ (1, $n$ = 597) = 87.29, $p < 0.001$

The remaining research questions and hypotheses deal with the structure of the headlines and their prevalence in different types of news stories. RQ3 asks about the prevalence of personalization in the most viral headlines from 2014. According to the analysis, 119 headlines, amounting to 19.9% of the sampled items, contained first or second person pronouns, writing from the perspective of the author(s) or addressing the reader. The breakdown by type of media outlet (RQ4), presented in Table 3, shows that the digitally native sites were statistically more likely to use these strategies, $\chi^2$ (1, n = 597) = 44.08, $p < 0.001$.

**Table 3.**
**Presence of personalization strategies by media outlet type**

| | Traditional % | Digitally-native % | Total % |
|---|---|---|---|
| **Present** | 7.9 | 29.7 | 19.9 |
| **Not present** | 92.1 | 70.3 | 80.1 |
| *n* | 267 | 330 | 597 |

$\chi^2$ (1, $n$ = 597) = 44.08, $p < 0.001$

RQ5 deals with the pervasiveness of "listicles" among the most viral items posted in 2014. Analysis revealed that 138 stories (23.1% of the sample) were presented in the listicle format. As the breakdown by outlet on Table 4 shows, almost all of the highly viral items using a list-like structure were published by digitally-native outlets *BuzzFeed* and The Huffington Post, $\chi^2$ (1, $n$ = 597) = 127.01, $p < 0.001$.

**Table 4.**
**Presence of "listicles" by type media outlet type**

| | Traditional % | Digitally-native % | Total % |
|---|---|---|---|
| **Present** | 1.5 | 59.4 | 23.1 |
| **Not present** | 98.5 | 40.6 | 76.9 |
| *n* | 267 | 330 | 597 |

$\chi^2$ (1, $n$ = 597) = 127.01, $p < 0.001$

RQ7 addresses the prevalence of forward referencing strategies, such as the use of indicative pronouns or adjectives, or the deliberate introduction of information gaps in headlines. According to the results of the content analysis, 43 headlines, amounting to 7.2% of the sample included at least one feature of forward referencing. Among these, the most common strategy was the use of This, either as a demonstrative adjective or as a pronoun, and was found in 20 headlines, or 3.4% of the sample. Less common were the use of *What* (2.2%), *Why* (1.7%) or personal pronouns (0.5%).

H1 predicts that forward referencing is more likely to appear in soft news than hard news. A chi-square test (presented in Table 5) supports the hypothesis—"soft" news were statistically more likely to feature forward referencing than breaking news or public affairs reporting, $\chi^2$ (1, $n$ = 597) = 9.20, $p$ > 0.01. These crosstabs show that only four hard news stories (2.3%) successfully employed forward referencing.

**Table 5. Presence of forward referencing strategies by news topic**

| | "Hard" news % | "Soft" news % | All topics % |
|---|---|---|---|
| **Present** | 2.3 | 9.3 | 7.2 |
| **Not present** | 97.7 | 90.7 | 92.8 |
| *n* | 177 | 420 | 597 |

$\chi^2$ (1, $n$ = 597) = 9.20, $p$ < 0.01

In a similar vein, H2 postulates digitally native content providers would be significantly more prone to use forward referencing. This hypothesis was also supported by a chi-square test (shown in Table 4), although the observed effect is not as strong, $\chi^2$ (1, n = 597) = 3.94, $p$ > 0.05. As noted in RQ2, only 43 stories overall included forward referencing, 30 of which appeared in digitally native organizations and 13 that appeared in traditional publications.

**Table 6. Presence of forward referencing by media outlet type**

| | Traditional % | Digitally-native % | Total % |
|---|---|---|---|
| **Present** | 4.9 | 9.1 | 7.2 |
| **Not present** | 95.1 | 90.9 | 92.8 |
| *n* | 267 | 330 | 597 |

$\chi^2$ (1, $n$ = 597) = 3.97, $p$ < 0.05

## Discussion

Social media has opened the doors to expansive modes of two-way communication between media organizations and audiences. These interactions have led to wider scopes of information distribution to hard-to-reach audiences, and allow news organizations to have audience assessment of material. Scholarship that focuses on the digital realm seeks to answer questions such as: What do audiences share with their peers? How do they interact with content? In this context, we see sensationalism is one tactic that has helped foster connections with the public since the rise of "Yellow Journalism," even though the ethical foundations and implications of the concept remain in question.

In this study, we sought to understand how frequently sensational forms appear in viral online content and what types of organizations are more likely to employ these tactics. Our findings revealed that among the most viral news stories, those published by digitally native organizations are more likely to feature sensationalistic forms. While legacy organizations have a significant presence in viral content and utilize sensational tactics to engage audiences, these strategies appear less frequently in their viral content in comparison to online native organizations. The possible use differences may be partially accredited to the varying business models of digitally native and traditional organizations. While traditional organizations have established offline revenue sources—such as subscription and broadcast advertising—digitally native organization compete with both the traditional organization and other online content providers. Thus, the attention-grabbing sensational practices may be more reliable for them to gather much-needed traffic, which often a significant part of their business models.

A prominent form of sensational from in viral news items is the listicle. Listicles accounted for about one-quarter of viral content in this study, and online native organizations successfully use the tactic most often. However, the appearance of this form in most viral content supports claims that online and mobile news consumers are perhaps most likely to engage in a "news snacking"—that is easy-to-read, concise formats (Lawor, 2013). Listicles also offer a commercial advantage for news organizations. For example, listicles that require the reader to click on multiple pages will generate more impressions for a page. It is not surprising then that almost half of *BuzzFeed*'s most viral headlines are listicles, and the organization is the leader in sensational news among the sample in this study.

However, in light of *BuzzFeed*'s more recent declarations to produce credible news, it appears that mass Facebook audiences prefer their former content. This finding brings into question *BuzzFeed*'s future potential to act as a key player in online news distribution. How has, or will, this organization find balance and credibility in the continued production of what appears to be their standard, sensational and viral content while producing more hard-setting news for the masses? If *BuzzFeed* is, in fact, providing more standard news, we speculate there are different economic incentives for doing such than those of their entertainment content.

Overall, viral news articles are mainly soft news; hard news and breaking news formats were a minority of the viral content put out by online news outlets. Therefore, we surmise that the highest social activity on Facebook is less about being the first to "break" news though the temporal nature of breaking news may indeed be a factor in some situations. Instead, viral news production is about disseminating content that is relatable and narratively written. This observation is important for news management companies who are continually adopting strategies to engage publics within this particular network.

In terms of a global distribution strategy for news content, the personalized, narratively written and soft news formats are more likely to be shared in a more expansive way than hard news. We do not make the assertion that hard news is any less important, and certainly has its place in social media networks. However, for journalists aiming to expand their reach to national or global levels, sensational approaches examined in this study may be more successful for articles with less temporal immediacy. An important limitation of this study is that these viral tactics are not necessarily valid in other social media networks. Future studies should examine cross-network virality and the variations in content from with high levels of audience interactions in additional platforms such as Twitter, Tumblr, and Instagram.

Our findings also illustrate that readers may choose to interact with content from traditional news organizations for different reasons than digitally native organizations. Among traditional media, most viral stories were breaking, hard news—indicating audiences continue to turn to them to share that type of immediate information, instead of digitally news organizations. In spite of the great popularity that sites like *BuzzFeed* and *The Huffington Post* currently enjoy, legacy media still command higher levels of trust (Pew Research Center, 2014), and thus this may account for the content variations found in this study. Additionally, this finding indicates that sheer evaluation of news quality and effectiveness should not be limited to social media interactions and possibility of viral news.

On the other end of the spectrum, audiences may prefer to share information from digitally native organizations that are more narratively based. Similarly, it is also possible that legacy media companies, such as *The New York Times*, choose social media agendas at the beginning of the day, and like Lee, Lewis and Powers (2014) suggest, these agendas primarily consist of hard news topics. Therefore, if traditional organizations have not succeeded in employing these sensational form tactics in the past, it is possible they do not appear in this sample because journalists and editors are aware of the audience's preferences for breaking news.

This study also discovered that about 20% of the content with the most Facebook activity featured personalization strategies in their headline. Though social media dynamics are constantly changing, in 2014, audiences' responded to personalized, but generalizable, approaches to news storytelling. These strategies, again, were significantly more prevalent in content from digitally native media than in the sites of legacy news outlets. However, when examining the output of individual media organizations, we were able to identify that among traditional media *The Guardian* is particularly more open to using personalization strategies, with personalized headlines appearing in 16.3% of their viral headlines.

Forward referencing was present in viral media only about 7.3% of the time. While this form of writing may indeed be significant in achieving curiosity, its prevalence in highly viral stories is minimal—less than even so than forward referencing strategies found in 2013-2014 coverage of Danish publications by Blom and Hansen (2015), which included a more significant 17%. While this study does not attempt to predict the extent of the use of forward referencing, it appears that in the United States this is an emerging tactic that entices audiences to be interested in or engage with content in social media arenas.

The observations from this content analysis place online native organizations as perhaps the best at creating viral content; BuzzFeed and *The Huffington Post* alone make up more than half of the sample of widely shared stories. However, the forms of sensationalism that online native organizations use are not present near as often in traditional media, leaving extensive room for further exploration. If these structural elements are most prevalent in digitally native organization viral headlines, what specific characteristics of traditional media produce viral news aside from breaking news? Future studies should examine the content of viral news—such as topics and news values—which could potentially provide more insight for commonalities in viral news. Still, these findings reveal that online journalism outlets can still utilize sensational forms as an opportunity for engaging wider audiences.

By identifying form variances in viral content, this study highlights the degree to which some forms of sensationalism are observable in the most viral media. This study only accounts for a partial description of viral content. We urge future researchers to look into the sensationalism from a contextual standpoint (i.e. news value and news topic) within viral media to see if patterns can be established. This is particularly the case for traditional media organizations, which appear to either employ these tactics less often, or to have less success with audiences interacting with sensationally structured content. Future studies should further explore the interplay between subject matter, form and the predetermined trust that audiences have in particular media outlets, which might provide further insights into what makes people engage with, and share online news contents.

We were able to identify that approximately half of viral news incorporated some sensationalistic writing tactic in the headline. However, this finding does not necessarily support the idea that online journalism brings with itself a degradation of traditional journalism values as critics of sensationalism presume (Barthel, Moon, & Mari, 2015). Instead, by looking at the most viral content, we speculate that sensationalistic form should be viewed as a packaging element, and considered a useful tool for distributing information in a highly competitive social environment. For example, a *BuzzFeed* headline that reads "16 important tips every iPhone 6 owner should know" includes useful, technology information for readers and up-to-date information about issues owners may encounter with the iPhone 6. This article is not aligned with negative evaluations of sensationalism, despite its presentation in a sensationalist way. Therefore, while sensational form is indeed prevalent among viral content, this does not necessarily equate a decline in journalistic standards. Instead, our study finds that prevailing headline writing tactics are useful in encouraging audiences to engage with content, through liking, sharing and commenting on social media.

Future studies should consider further the relationship between form and contextual intricacies of viral news, exploring how tone and emotion drive audience engagement with certain content. Additionally, it would be important to advance this exploratory study by considering other posting tactics that might drive virality, such as the inclusion and framing of visuals included with the social media postings, as well as other collateral texts that accompany headlines.

## Conclusions

Ultimately, journalism and storytelling are not “antithetical activities” (Tuchman, 1976, p. 96). Our findings suggest that using these curiosity-building types of sensationalistic form are effectively part of what makes some content viral. While sensationalism offers a gamut of responses from scholars about the good and bad aspects of its form and content expectations, its tactics make people share, engage people through “liking” and commenting, and ultimately help distribute information to broader audiences. This study finds that employing sensational presentation tactics such as personalized headlines and narrative structures might be beneficial to reaching more general audiences because they tend to be shared more often.

Traditional media organizations have been less successful at employing or less inclined to use these tactics, as viral headlines from these organizations are less likely to include the sensational forms of personalization, forward referencing, listicles, and soft news. It is possible that legacy news organizations, which developed their craft before the advent of social media, are just more prone to maintain and adhere to traditional journalistic practices in online environments (Deuze 2003; Hermida & Thurman, 2008).

As the legitimacy of sensationalism forms are negotiated, and journalistic organizations attempt to validate their principles and practices, the media empires struggling to connect with audiences online may find increased engagement with minor modifications of content and structure, improving two-way communication and fostering the much-desired model of the Internet as a sphere for informed deliberation.

## References


Adams, W. C. (1978). Local public affairs content of TV news. *Journalism Quarterly, 55*(4), 690-695.

Allsop, D. T., Bassett, B. R., & Hoskins, J. A. (2007). Word-of-mouth research: Principles and applications. *Journal of Advertising Research, 47*(4), 388-411.

Alpert, L. I. (2015, January 29). BuzzFeed nails the "listicle"; What happens next? *The Wall Street Journal*. Retrieved from http://www.wsj.com/articles/buzzfeed-nails-the-listicle-what-happens-next-1422556723

Antony, M. G., & Thomas, R. J. (2010). "This is citizen journalism at its finest": YouTube and the public sphere in the Oscar Grant shooting incident. *New Media & Society*. 12: 1280–1296.

Barthel, M. L., Moon, R., & Mari, W. (2015). Who retweets whom? How digital and legacy journalists interact on Twitter. Tow Center for Digital Journalism. New York, New York. Retrieved from: http://towcenter.org/research/who-retweets-whom-how-digital-and-legacy-journalists-interact-on-twitter/

Baum, M. A. (2002). Sex, lies, and war: How soft news brings foreign policy to the inattentive public. *The American Political Science Review, 96*(1), 91-109.

Bechmann, A. (2012). Towards cross-platform value creation: Four patterns of circulation and control. *Information, Communication & Society, 15*(6), 888-908.

Bennett, W. L., Breunig, C., & Givens, T. (2008). Communication and political mobilization: Digital media and the organization of anti-Iraq war demonstrations in the US. *Political Communication, 25*(3), 269-289.

Berger, J., & Milkman, K. L. (2012). What makes online content viral? *Journal of Marketing Research, 49*(2), 192-205.

Bernstein, C. (1992, June). The idiot culture: Reflections of post-Watergate journalism. *The New Republic, 22*.

Blom, J. N., & Hansen, K. R. (2015). Click bait: Forward-reference as lure in online news headlines. *Journal of Pragmatics, 76*, 87-100.

Borger, M., van Hoof, A., Costera Meijer, I., & Sanders, J. (2012). Constructing participatory journalism as a scholarly object. *Digital Journalism, 1*(1), 117–134. http://doi.org/10.1080/21670811.2012.740267

Boulianne, S. (2009). Does Internet use affect engagement? A meta-analysis of research. *Political Communication, 26*(2), 193-211.

Bowman, S., & Willis, C. (2003). *We media. How audiences are shaping the future of news and information*. The Media Center at the American Press Institute. Reston, VA. Retrieved from: http://www.hypergene.net/wemedia/download/we_media.pdf

Cresci, E. (2014, August 11). 21 things you need to know about BuzzFeed's success. *The Guardian.* Retrieved from http://www.theguardian.com/media/2014/aug/11/21-things-you-need-to-know-about-buzzfeeds-success

Davie, W. R., & Lee, J. S. (1995). Sex, violence, and consonance/differentiation: An analysis of local TV news values. *Journalism & Mass Communication Quarterly, 72*(1), 128-138.

Deuze, M. (2003). The Web and its journalisms: Considering the consequences of different types of news media online. *New Media & Society, 5*(2), 203-230.

Domingo, D., Quandt, T., Heinonen, A., Paulussen, S., Singer, J. B., & Vujnovic, M. (2008). Participatory journalism practices in the media and beyond: An international comparative study of initiatives in online newspapers. *Journalism Practice, 2*(3), 326-342.

Grabe, M. E., Zhou, S., & Barnett, B. (2001). Explicating sensationalism in television news: Content and the bells and whistles of form. *Journal of Broadcasting & Electronic Media, 45*(4), 635-655.

Hayes, A. S., Singer, J. B., & Ceppos, J. (2007). Shifting roles, enduring values: The credible journalist in a digital age. *Journal of Mass Media Ethics, 22*(4), 262-279.

Haskins, J. B. (1984). Morbid curiosity and the mass media: A synergistic relationship. In *Morbid curiosity and the mass media: Proceedings of a symposium* (pp. 1-44). University of Tennessee/ Gannett Foundation.

Hermida, A., & Thurman, N. (2008). A clash of cultures: The integration of user-generated content within professional journalistic frameworks at British newspaper websites. *Journalism Practice, 2*(3), 343-356.

Klinenberg, E. (2005). Convergence: News production in a digital age. *The Annals of the American Academy of Political and Social Science, 597*(1), 48-64.

Lauerbach, G. (2009). Audience design in national and international news: The case of BBC and CNN. *Language in Life, and a Life in Language: Jacob Mey–A Festschrift*, 267-275.

Lawor, A. (2013, August 12). 5 ways the listicle is changing journalism. *The Guardian*. Retrieved from http://www.theguardian.com/media-network/media-network-blog/2013/aug/12/5-ways-listicle-changing-journalism

Lawrence, R. G., Molyneux, L., Coddington, M., & Holton, A. (2014). Tweeting conventions: Political journalists' use of Twitter to cover the 2012 presidential campaign. *Journalism Studies, 15*(6), 789-806.

Lee, A. M., Lewis, S. C., & Powers, M. (2014). Audience clicks and news placement: A study of time-lagged influence in online journalism. *Communication Research, 41*(4), 505-530.

MacGregor, P. (2007). Tracking the Online Audience. *Journalism Studies, 8*(2), 280-298.

Matheson, D. (2004). Weblogs and the epistemology of the news: Some trends in online journalism. *New Media & Society, 6*(4), 443-468.

NewsWhip's social publisher rankings-Methodology. (2014). *NewsWhip*. Retrieved from http://blog.newswhip.com/index.php/2014/07/ultimate-guide-newswhips-social-publishers-rankings.

Nah, S., Veenstra, A. S., & Shah, D. V. (2006). The Internet and anti-war activism: A case study of information, expression, and action. *Journal of Computer-Mediated Communication, 12*(1), 230-247.

Patterson, T. E. (2000). *Doing well and doing good: How soft news and critical journalism are shrinking the news audience and weakening democracy-and what news outlets can do about it*. Joan Shorenstein Center on the Press, Politics and Public Policy, John F. Kennedy School of Government, Harvard University.

Pew Research Center (2014). *Political polarization and media habits*. Washington, D.C.: Pew Research Center. Retrieved from http://www.journalism.org/2014/10/21/political-polarization-media-habits/

Pew Research Center (2015). *State of the News Media 2015*. Washington, D.C.: Pew Research Center. Retrieved from http://www.journalism.org/2015/04/29/state-of-the-news-media-2015/

Poindexter, P. M., & McCombs, M. E. (2000). *Research in mass communication: A practical guide*. Boston, MA: Bedford St. Martin's.

Poole, S. (2013). Top nine things you need to know about 'listicles'. *The Guardian*. Retrieved from http://www.theguardian.com/books/2013/nov/12/listicles-articles-written-lists-steven-poole

Revers, M. (2014). The twitterization of news making: Transparency and journalistic professionalism. *Journal of Communication, 64*(5), 806-826.

Salmon, F. (2014). Viral math [Blog post]. Reuters-Analysis and opinion. Retrieved from http://blogs.reuters.com/felix-salmon/2014/02/02/viral-math/

Shaw, D. L., & Slater, J. W. (1985). In the eye of the beholder? Sensationalism in American press news, 1820-1860. *Journalism History, 12*(3-4), 86-91.

Slattery, K. L., & Hakanen, E. A. (1994). Sensationalism versus public affairs content of local TV news: Pennsylvania revisited. *Journal of Broadcasting & Electronic Media, 38*(2), 205-216.

Sonderman, J. (2012, October 23). Huffington Post leads news sites with the most viral stories on Facebook. Poynter. Retrieved from http://www.poynter.org/news/mediawire/192652/huffington-post-leads-news-sites-with-the-most-viral-stories-on-facebook/

Stevens, J. D. (1985). Sensationalism in perspective. *Journalism History, 12*(3-4), 78-79.

Suau, J., & Masip, P. (2013). Exploring participatory journalism in Mediterranean countries. Journalism Practice, 8(6), 670–687. http://doi.org/10.1080/17512786.2013.865964

Tuchman, G. (1976). Telling stories. *Journal of Communication, 26*(4), 93–97.

Wolf, C., & Schnauber, A. (2015). News consumption in the mobile era: The role of mobile devices and traditional journalism's content within the user's information repertoire. *Digital Journalism, 3*(5), 759-776.

***Danielle K. Kilgo*** *is a doctoral candidate in the School of Journalism at The University of Texas at Austin. Her research interests include political and visual communication.*

***Vinicio Sinta*** *is a doctoral student in the School of Journalism at The University of Texas at Austin. His research centers on ethnic-oriented news media, with a focus on U.S. Latinos/as.*

# Did You Get the Buzz? Are Digital Native Media Becoming Mainstream?

## *Lu Wu*

*The term "digital native media" describes media companies that were born and grown entirely online. Recently digital native media companies have been repositioning themselves away from viral aggregation of second-hand content to generating quality journalism at a level competing with the best old line media. According to media ecology scholars, a nascent media outlet will tend to adopt traditional organizational forms and mimic standard production routines and practices of legacy media, in part to seek legitimacy and stability. This study performed a content analysis of eight years of news content published on BuzzFeed.com. The results showed that while BuzzFeed remains in the early stages of establishing itself as a news organization, it has gradually adopted newsroom routines resulting in more hard news stories that use more official sources.*

## Introduction

In today's digital media environment, many traditional news organizations are stuck in recession and struggling to survive continuous revenue drops and newsroom downsizing. The shrinking of newsroom resources has media scholars uneasy as they worry that it may take a toll on the future of journalism (Curran, 2010; Lowrey & Woo, 2010). On the other hand, newer media companies have been thriving in the turmoil and are marching into the new world headstrong. The most recent example is Gawker.com, a digital native website known for celebrity and media industry gossip, which recently announced it has enacted a new strategy to focus on political news (Somaiya, 2015).

These companies are referred to in this paper as "digital natives"—that is, they are entirely born and grown online. Digital native media companies differ from traditional news companies in many ways, but one of the most important is that many are expanding in growth and profits. This article argues that digital native companies are thriving not just because Silicon Valley venture capital investors tend to provide them large valuations, but also because these companies have begun to solve problems of how to make profit online. Many digital native media companies started as online content aggregators, curating, branding and distributing viral content such as videos, pictures or posts written by others. These companies benefit from the digital network benefits provided through social media, which they have tapped into not only to generate story content, but as a framework to distribute, consume, share and comment about that content. As Sundar (2008) theorizes, the online consumption of digital media through social websites transforms the media experience by affording the audience the means to engage in a personal way, actively constructing meaning as they consume, share, comment, and create. When executed smartly by digital native media companies, the online environment can further reinforce their dominance over older media companies that have been slow to understand the expanded opportunities outside the printed news.

Despite its rising popularity, digital native media companies were originally viewed as edgy, eccentric, or unseemly by traditional media organizations and media critics (Carr, 2012; Carr, 2014; Miller, 2014). But in recent years, some digital native companies have taken action in repositioning to become something more traditional in format. These moves started with newly hired reporters and editors as they were enticed from legacy media to positions of power at the digital startups.

Media ecology scholars such as Lowrey (2012) have argued that nascent media would adopt organizational forms in order to survive uncertainty in the media environment. Lowery argued that emerging media may have viewed themselves as different from the mainstream, but after all they would change by taking the same forms they rejected at the first place (Lowrey et al., 2011). Lowery and others have theorized that newer media companies accrue legitimacy by mimicking many of the standard production routines and practices of legacy media. Once the media entity becomes more established and the existing uncertainty is reduced, however, homogenization and routinization will occur (Lowrey, 2012).

This process has been evident at *BuzzFeed* as it makes its transformation. Once the brand was best known for producing easily consumed and shared content with a "listicle" format, distinguished by titles such as "7 Easy Dinners to Make This Week." As of 2014, *BuzzFeed* was the second-most visited digital native news site, according to a Pew Research Center report from that year. Although it is privately held, the company's valuation has been estimated at $1.5 billion (Swisher, 2015).

Despite the company's success and promising future, it's not yet certain that digital native media such as *BuzzFeed* will succeed as news organizations. Media watchers have questioned the financial sustainability of a model that depends on fickle trends in social media and constantly evolving technology; other writers have focused in particular on credibility of the online news outlet (Carr, 2014; Jurkowitz, 2014).

This article seeks to start a discussion on the advent of digital native media as serious players in journalism by conducting a case study on *BuzzFeed*. It argues that *BuzzFeed*, just like other emerging organizations analyzed by Lowrey et al. (2011), will build a more reputable image and succeed in the news business by modeling its organizational forms after the traditional forms of legacy media organizations.

Shoemaker and Reese (2014) concluded that the consequences of adopting organizational forms can be evaluated through the content. Therefore, this study uses a content analysis of all the news articles published by *BuzzFeed* since its establishment, focusing on use of sources, news categories, and news topics of those articles: three variables, which are closely related to—perhaps essential for—traditional organizational forms. The analysis presented in this article makes conceptual contributions to the sparse current knowledge about digital native media news practices. It provides systematic information about changes made by *BuzzFeed* leadership over the years to test the assumption that media companies, in their plan to accrue legitimacy, end up mimicking many of the standard routine practices and forms used by legacy media.

## Literature Review

### Digital native media

Scholars are intrigued by digital native media because they are unconventional. These are the media companies that succeeded online first, surviving and growing because they had mastered content forms and methods for news dissemination in a world increasingly dominated by the audience's continuous connection to the Internet, regardless of time, place, or platform (Barthel, et al., 2015). Over time, audiences have learned increasingly to consume their news online, particularly through social media platforms such as Twitter and Facebook, which become the main source of sending traffic to the digital native media sites (Friedman,n.d.). Furthermore, digital native media are also leading advertising revenue in the mobile news sector because their mobile ads are more organically designed and individually-targeted to go well with the editorial content and thus feel less jarring to their readers (Moeinifar, 2014).

However, and perhaps because of their reputations made by producing viral content, it is hard for digital native media organizations to change the public perception that they are inevitably associated with shallowness and sensationalism. This can be understandable, considering the reporting that some digital outlets have produced over the years. For example, *BuzzFeed* is commonly criticized for relying on "listicles"—short, simple and topical articles structured as lists. The listicles are efficient and effective in terms of attracting readers, but the oversimplified format with pictures accompanied by short captions in large size font makes it difficult to take them seriously except for entertainment value. Another digital native media outlet, Gawker.com, has recently announced its transition to a political news site. This may be commended, but it could be difficult, given that it is currently involved in a $100 million civil lawsuit brought by the wrestling professional and TV personality Hulk Hogan after the website published a sex tape featuring Hogan and defended the tape as "real news." Gawker's announced move also invites critical comments that it is just another example of a long tradition of applying a tabloid sensibility to politics (Shafer, 2015). The late longtime *New York Times* media critic David Carr said it well when he brought up the question: is Web journalism a bubble or a business on the make? (2014).

### Adopting organizational forms

Before digital native media, scholars were asking similar questions about the uncertain future of blogs. Facing competition from news outlets and each other, bloggers, especially top bloggers with a certain amount of followers and fame, were under constant pressure of updating content frequently to remain financially healthy (Lowrey et al., 2011). This constant challenge of the media environment—what Sparrow called “uncertainty” (2006, p.145)—is what will drive new media organizations to adopt organizational forms for stability and future development (Lowrey, 2012).

Shoemaker and Reese (2014) define an organization as an entity whose members share common goals, are guided by the same rules, and behave within established boundaries. Organizational forms, as operationalized by Lowrey et al. (2011), are expressed by a company as it hires employees, routinizes processes, creates rules and regulations that bind managers and employees, and allocates resources to become specialized. In their study of public issue blogs, Lowrey et al. (2011) found that bloggers would actively seek revenue by writing posts based on popularity and by updating content frequently. They would also adopt editorial policies and rules, and finally, they would adhere to codes of ethics, hire staff, and disseminate information on a regular basis just as a legacy media organization does.

The presumed result of nascent media tendencies to adopt organizational forms is legitimacy (Lowrey, 2012), which is an important ingredient to the developing organizations (Sparrow, 2006). Sparrow argued that the need for legitimacy is necessitated by uncertainty in the media environment. In particular, he linked legitimacy with credibility and attributed the need for legitimacy to the dwindling trust the general public have in the media. According to his view, journalists try to be negative and adversaries towards the government in order to gain trust from the public (2006).

Lowrey (2012) viewed gaining legitimacy as a necessity in order to be competitive and successful. As stated above, organizations gain internal complexity as they implement rules and goals, and they also develop external reputations and form more extensive and complicated relationships with other institutions (Lowery, 2012). Non-traditional media have been observed to seek legitimacy so they can compete with other more established media outlets (Pickard, 2006). Those companies that appear to powerful external institutions and to the public to have a legitimate image tend to develop and thrive (Lowrey, 2012).

Some signs that digital native media have been going through organizational changes are evident. To begin with, newsroom staff sizes at digital native news organizations have expanded in recent years, just as many legacy news organizations have had recent consecutive years of employee downsizing (Jurkowitz, 2014).

New digital native outlets tend to hire more tech-savvy workers, while frequently recruiting reporters and editors from legacy media as well (Jurkowitz, 2014). As they expand, digital news organizations are rapidly increasing their global reach, hiring overseas journalists to represent new regions, gathering stories from locally sourced talent, and leveraging the power of crowdsourcing for content and new story ideas (Friedman, n.d.).

### Adopting news routines

Journalists are “persons of their media firms” (Sparrow, 2006, p. 148): they work under the dome of their organizations; therefore they work under the influence of changes happening at the organizational level. One reflection of the influence of organizational level changes is on journalists’ routines (Shoemaker & Reese, 2014).

According to Lowrey, news routines enable “stasis and homogeneity” (2012, p. 219). Media organizations are under constant pressures of operating in limited time, space and resources to produce a news product that can satisfy their audience. Organizations establish routines in order to improve efficiency and to make a profit in most of the cases (Shoemaker & Reese, 2014).

Routines are mostly unwritten rules that provide media workers guidance (Shoemaker & Reese, 2014). Although routines vary among media organizations, Shoemaker and Reese (2014) found that there are similarities within a type of medium (television, print or news networks).

Since the daily routines and roles of legacy news organizations are widely understood and “taken for granted” by audiences, it follows that such practices and processes will increase the legitimacy of adopters for their audiences (Lowrey, 2012, p. 226). Source pattern has also been used as criteria to measure the degree of influence of organizational factors on news routines (Carpenter et al., 2015; Lacy et al., 2013). For newly established organizations, use of sources is an indicator that their reporting is moving beyond rumors and anecdotes and is becoming more conventional.

Journalists rely heavily on routine sources to identify the topics that qualify to be newsworthy (Weaver, 2007). Source selection, as a part of the rules of contemporary journalism, helps journalists make news decisions that are in keeping with journalistic norms (Bennett, 1996). Among several of the findings about source usage that Bennett outlines in his 1996 essay, stories based on official sources were found to dominate journalistic routines. Thus, the reported stories were likely to reflect the reality from the official authorities’ perspective (Bennett, 1996).

Ryfe (2006) argues that journalists rely on official sources for stories as a way to demonstrate the obligation that comes with being a journalist to deliver the “official” version of the story to the public. Another argument is that the over-reliance on official sources is an easy way out for journalists, i.e., they depend heavily on official sources because it’s convenient. Journalists have little time to seek and develop other sources under the pressure of deadlines so they rely on official sources and pre-written press releases (Brown et al., 1987). The bottom line is that journalists tend to propagate official versions of reality, unless it is otherwise demanded that they investigate further.

Journalists seem to follow the same journalistic norms or rules unconsciously, although such norms or rules were never documented and distributed among journalists (Ryfe, 2006). But do journalists who work for digital native media also operate under such guidance? If so, it should be reflected in the news content they produce over time.

### Hard and soft news

It's also efficient for news organizations to deal with the demands of heavy workflow by routinizing the process of news making (Tuchman, 1973). Lowrey (2012) observes that newsroom routine is crucial to organizational ecology. The newsgathering routine provides journalists with outlines and expectations regarding methods, resources, and efficiencies. It reinforces the organizational status quo and unifies journalistic practices, but may also serve as a limit to diversity of content and sources (Shoemaker, 2009).

Tuchman (1973) explains that journalists differentiate types of news stories by putting them into major categories, which will decrease the variability of the raw material and facilitate routinization in newsgathering for the organization. Among the categories, classifying stories as hard news or soft news is perhaps the most widely considered analytical strategy (Boczkowski, 2009). Journalists see hard news as reporting that consists of newsworthy facts of events that are potentially open to analysis and interpretation, while soft news items are equal to human-interest stories (Tuchman, 1973). Soft news is generally considered to be entertainment-oriented (Baum, 2002), human interest, or "interesting" stories (Tuchman, 1973, p. 176).

However, Boczkowski and other scholars have addressed the trend of "softening of news" in contemporary journalism (Baum, 2002; Boczkowski & Peer, 2011; Schudson, 2003). Contrary to the traditional sense that news focusing on political and cultural values is categorized as hard news, Boczkowski (2014) writes that political news stories more and more often are being presented in a soft news format (feature, opinion, commentary, and alternative views). Hamilton (2004) explained that soft-approach news stories are cheaper to produce and are more popular among readers compared to the fact-based public affairs approaches.

### Research Questions and Hypotheses

Guided by these concepts of organizational forms, news routines, source usage, and news categories, this study analyzes the organizational level and routine level changes made by native digital sites by examining the content produced by *BuzzFeed* news before and after it shifted from an entertainment-oriented online content aggregator to an original news content generator.

*BuzzFeed* was the second-most visited digital native news site in 2014 (Pew, 2015). CEO Jonah Peretti, speaking of his goal to expand the organization's journalistic horizons, said "*BuzzFeed* News has the potential to become the leading news source for a generation of readers who will never subscribe to a print newspaper or watch cable news show" (Honan, 2014, para 23).

This study focuses on *BuzzFeed* as a subject for two reasons: First, *BuzzFeed* is a good example of the transition from content aggregator to news content creator. The website hired highly regarded Politico editor Ben Smith in 2012 to launch a serious transition into the news business, and by 2014, the company's reporting work had gained the recognition of many traditional news media for its quality and investigative depth; and second, *BuzzFeed* has its own archive that hosts all of its past content.

This study hypothesizes that the following organizational level and routine level changes took place under the current leadership:

**H1: The content published after 2012 will have a greater number of sources per story than content published before 2012.**

**H2: The content published after 2012 will have a greater number of official sources than content published before 2012.**

Given the fact that digital native news sites are actively involved in political reporting, this study also seeks to examine the proportion of soft and hard political news and to test if the "softening of news" (Boczkowski, 2009) trend has also impacted *BuzzFeed*. Therefore, this study asks:

**RQ1: What are the most common news topics BuzzFeed reported on before and after 2012?**

**RQ2: What are the distributions of hard news and soft news stories before and after 2012?**

**RQ3: Are more political news stories being told in soft news format after 2012 than before 2012?**

## Methods

This study is a content analysis of news articles published by *BuzzFeed*. As stated earlier, the hiring of trained journalists is a move *BuzzFeed* made to show its commitment to improve journalism practice; however, a systematic analysis is needed to examine at the craft level how the practice is actually reflecting the professionalism at *BuzzFeed*.

Because content itself is shaped by other antecedent conditions including organizational characteristics, news routines, and practices (Berkowitz, 1997; Lacy, 1987; Riffe, Lacy & Fico, 2014; Shoemaker & Reese, 2014), it follows that changes at *BuzzFeed*'s organizational level have influenced its journalistic product. Conducting a content analysis of *BuzzFeed*'s publications using empirical observation and measurement provides the opportunity through inference to understand how that content was affected by forces at the organizational level.

## Sampling

The population for the study consists of all news articles (published under the *BuzzFeed* News banner) from January 1, 2007 to October 31, 2015. *BuzzFeed* provides an archive of past content at http://www.buzzfeed.com/archive. The archive starts on November 1, 2006, and continues to the most current date.

Although there is limited guidance on representative sampling approaches for online media, especially digital native media sites, this study used the constructed weeks sampling method suggested by studies on the online segment of traditional media (Hester & Dougall, 2007; Wang & Riffe, 2006). Two constructed weeks of each year were used to conduct the content analysis with two sets of randomly selected weekdays to construct the composite. Use of the constructed week is preferable to both simple random sampling and using consecutive days in order to avoid oversampling and ignoring between-week differences (Riffe et al., 1993). Using two constructed weeks has been shown to be efficient and effective to represent accurately one year of content of online news sites (Hester & Dougall, 2007; Wang & Riffe, 2006). Although the archive provides two months of content in 2006, the year is excluded from the sample because of it was not possible to construct a representative two-week sample.

The final sample consists of a total of 912 articles.

## Coding

The unit of analysis was each article. Four predictor variables were used in analyzing the articles: news categories (hard news or soft news), number of sources, source type, and news topic.

*News Categories:* Hard news is defined as news that's written in inverted pyramid format and commonly focuses on immediate news value and broad social interest. Soft news is defined as stories written in feature style, commentary or other unconventional formats such as a list of pictures with descriptive captions.

*Sources:* Due to low coder reliability, reported categories for source type were reduced to three (official source, unofficial source, and social media source) from an initial set of seven (government official, police force, press release/spokesperson, experts, legal representatives, individuals and social media source). Official sources were defined as those who speak for individuals or organizations, including: government officials, company or organizational spokespersons, and official government reports. Unofficial sources include individuals who speak on their own about their own opinions. This group includes victims, relatives of victims, university professors, and individual business persons. Social media sources are screenshots of Tweets, Facebook posts, etc.

*New topics:* News topics were coded into 12 categories that were adapted from categories used by Stempel (1985): politics, war and related crisis, economy/business, education, entertainment, crime, accidents/disasters, technology, human-interest, sports, science, health and environment, arts, lifestyle, animal and miscellaneous.

To ensure reliability, 10% ($n$ = 87) of the selected dates were randomly chosen for double-coding by the researcher and a second coder. In the process of training the independent coder, the researcher refined the list of rules for the coding process. In particular, the categories of sources were reduced and disagreements concerning news categories were discussed and resolved. Krippendorff's alpha was used to calculate the agreement between the researcher and the independent coder in order to limit the possibility of reaching agreement by chance (Krippendorff, 2004). Reliability on hard or soft news was .89, agreement on types of sources was .85 and agreement on news topics was .87. The frequency count of the number of sources used in each article correlated at .95 (Pearson's r) between the coders. Pearson's r is often used to measure the reliability on interval- and ratio-level data (Riffe et al., 2014, p.118).

## Results

Among the total articles, 11.4% ($n$ = 104) were published in the five years before 2012 and 88.6% ($n$ = 808) were published in the four years after Jan. 1, 2012.

The first hypothesis concerns the mean number of sources in news stories. Before 2012, the average number of sources in a news story was .59. After 2012, the average number of sources in a news story was 1.84. An independent-sample t-test confirmed significant differences between the two groups (see Table 1). Therefore, H1 of increased story sourcing was supported ($p$ < .01).

The second hypothesis suggests that in content published after 2012, official sources will be quoted more often than in content published before 2012. Before 2012, the average number times official sources were quoted was .24; after 2012, it was .58. There was a significant difference between the two means with $p$ < .001. H2 was also supported.

**Table 1.** ***T-test: Sources for before and after 2012 in BuzzFeed***

| | Before 2012 | After 2012 | *t*-statistic |
|---|---|---|---|
| Average number of sources used in articles | .59 | 1.84 | 8.127** |
| Average times *official* sources used in articles | .24 | .58 | 75.382*** |
| *n* | 104 | 808 | |

*Note.* **$p$ < .01. ***$p$ < .001.

The three research questions require a comparison of news topics and formats of articles published before and after 2012. Due to extremely small numbers of stories in some categories, the reports were collapsed from science, health and environment categories into science; and arts, lifestyle, animal and miscellaneous categories were merged into lifestyle.

RQ1 sought to enumerate the news topics *BuzzFeed* reported on before and after 2012. As Table 2 shows, nearly half the news articles *BuzzFeed* reported about were political news. The next-most reported topics were economy/business, tech and crime. A Spearman's rank-order correlation illustrated similarity of topic agendas before and after 2012. There was a strong, positive correlation between the two periods, which was statistically significant ($r_s$ (10) = .82, $p$ < .001). Whatever else may have changed in 2012, *BuzzFeed*'s "topic mix" (Riffe et al., 1986; Stempel, 1986) remained the same.

**Table 2.** ***News Topic before and after 2012 in BuzzFeed***

| Topics | Years | | Total |
|---|---|---|---|
| | Before 2012 % | After 2012 % | |
| Politics | 52.9 | 49.8 | 49.4 |
| Economy/business | 18.3 | 10.5 | 9.5 |
| Technology | 15.4 | 5.8 | 4.6 |
| Crime | 2.9 | 10.4 | 11.4 |
| War and related crisis | 2.9 | 4.2 | 4.3 |
| Lifestyle | 2.9 | 2.1 | 2.0 |
| Entertainment | 1.9 | 6.5 | 7.1 |
| Accidents/disasters | 1 | 3.5 | 3.8 |
| Human-interest | 1 | 3.3 | 3.6 |
| Science | 1 | 0.8 | 0.7 |
| Sports | 0 | 1.6 | 1.9 |
| Education | 0 | 1.5 | 1.7 |
| *n* | 104 | 808 | |

*Note*. Spearman's rank-order correlation $r_s$ (10) = .82, $p$ <.001

RQ2 asks the percentage of hard news and soft news before and after 2012. As shown in Table 3, more than 60% of stories were soft news before 2012 but the percentage dropped to 41% after 2012. A chi-square test confirmed a significant difference in the distribution of hard news and soft news before and after 2012 ($\chi$ 2(1) = 18.75, p < .001).

**Table 3.** ***News Categories before and after 2012 in BuzzFeed***

| News Categories | Years | |
|---|---|---|
| | Before 2012 % | After 2012 % |
| Hard News | 36.5 | 58.9 |
| Soft News | 63.5 | 41.1 |
| *n* | 104 | 808 |

*Note.* $\chi^2$=18.75, *df* =1, *p*<.001.

RQ3 specifically inquires about the news categories of political news stories before and after 2012. A chi-square (see Table 4) test indicated that significantly more political news stories were told in the hard news format after 2012 than before $\chi^2(1) = 27.64$, $p < .001$.

**Table 4.** ***Political News Categories before and after 2012 in BuzzFeed***

| Political Story Format | Years | |
|---|---|---|
| | Before 2012 % | After 2012 % |
| Hard News | 30.9 | 67.4 |
| Soft News | 69.1 | 32.6 |
| *n* | 55 | 399 |

*Note.* $\chi^2$=27.64, *df*=1, *p* <.001

Another chi-square test showed that when reporting on political news, articles published after 2012 were significantly more likely to use sources than articles published before 2012 (see Table 5). But there was no significant difference in source use between political news and other news topics $\chi^2(1) = .53$, $p = .47$ in general.

**Table 5.** ***Political News Sources before and after 2012 in BuzzFeed***

| | Before 2012 % | After 2012 % |
|---|---|---|
| Source | 25.5 | 86.6 |
| No source | 74.5 | 13.4 |
| *n* | 55 | 399 |

*Note.* $\chi^2$=109.83, *df*=1, $p$ <.001

## Discussion

This study shows that *BuzzFeed*, though it is in the early stages of establishing status as a news organization, has made significant changes in progressing to its goals.

Shoemaker and Reese's Hierarchy of Influences Model (2014) suggests that organizational forms and news routines will influence media content. This study reveals that under new editorial leadership, *BuzzFeed* has gradually adopted routines resulting in more hard news stories, thus beginning to appear like other more "mature" news organizations. Furthermore, just as traditional news media reports rely heavily on official sources for story information (Carpenter, 2008; Lemert 1989), so too does *BuzzFeed*.

Although the findings suggest news coverage by *BuzzFeed* is featuring more sources, more hard news, the topic emphasis stays the same. The study found that there was a strong strength of association in news topics between the period before 2012 and after 2012. Politics and economics/business were the top two most covered news topics in both periods. This indicates that *BuzzFeed* maintains a focus on these issues in news reporting despite the shifts inside the organization. It honors its audience. The website has adopted routines and forms that promote efficiency and legitimacy, without changing "character." Audiences can come back to *BuzzFeed* and find topics they have always consumed but now the stories are better reported.

The observed change of patterns is also consistent with the anticipated pattern of the organization's increasing newsroom resources: more beat reporters were hired to cover news in culture, and society; and more international bureaus were opened to provide on-the-ground news feeds. However, these changes may also be explained by *BuzzFeed*'s change of categorization of its content. Before 2012, stories categorized as "news" and listed under the *BuzzFeed* News banner were almost solely about politics or politicians, while other stories with news value were put under another section of the website. After 2012, the selection of news became more inclusive; therefore, in the coding process we saw an increasing number of different subjects being categorized as "news" over the years. However, some stories that were definitely reported in hard news format were still placed under other banners (*BuzzFeed LGBT*, *BuzzFeed Celeb*, etc.)

Ironically, *BuzzFeed* News has demonstrated the opposite of the trend toward a "softening of news" as identified in media organizations (Boczkowski, 2012). Before 2012, *BuzzFeed* published twice the number of soft news stories as hard news. This number then reversed after 2012. Also, stories that were told in hard news format were more likely to include quotes from sources than stories told in the soft news format.

The dramatic increase of hard news stories reflected the institutional level changes in the reporting goals of *BuzzFeed*. In previous scholars' work, the "softening of news" has been attributed to growing competition with the rise of 24-hour cable news, along with the high cost of producing issue-based public affairs stories, which tended to be less appealing to audience and therefore less financially rewarding than personality-based opinion, commentary, and non-public affairs stories (Hamilton, 2004). The trend toward "softening of news" thus has been interpreted as driven mainly by financial incentives. But to *BuzzFeed*, financial constraints seem to be less a concern than to other media organizations. *BuzzFeed* reported a net profit of $2.7 million for the first half of 2014, and had recently received a $200 million investment from NBCUniversal (Ha, 2015). Despite the fact that hard news is expensive to produce, *BuzzFeed* with its brand and digital model, can apparently afford to do it and is taking its reporting to a professional level.

This study also found that *BuzzFeed* focuses on political reporting. Scholars who studied contributions to the political sphere by alternative media noted that they often provide information on issues that were neglected by mainstream media, and they offer diverse voices, alternative perspectives, and mobilizing information (Rauch, 2015). Listicle articles such as "7 Things Democrats Would Have Freaked Out About If Bush Had Done Them" was seen by some people as *BuzzFeed*'s contribution to individuals' knowledge of public and political affairs while capitalizing on the "soft" nature of the original listicle form (Maynor, 2014).

But *BuzzFeed* seems to have moved beyond just providing peripheral information about politics to people who are accidentally drawn to it because of entertainment elements; as an organization it appears to have become more serious and committed. Political news accounts for about half of all the news *BuzzFeed* reports both before and after the leadership change in 2012. But political news reported after 2012 was more likely to be in hard news format and contain more sources than those from before 2012. More recently, *BuzzFeed* has left the "kids table" and joined mainstream media to land interview opportunities with top political figures. For example, in a mixture of viral marketing and political news, President Obama sat down with *BuzzFeed* for a 10-minute interview in early 2015. The resulting video, titled "*BuzzFeed* Presents: Things Everybody Does But Doesn't Talk About," featured Obama mugging in front of a mirror in the Oval Office as he practiced a message about a significant deadline for the new healthcare law. The final video features the president of the United States taking selfies, making funny faces in a mirror, and mouthing his lines, all directed at the message "the deadline for signing up for health insurance is February 15th." Needless to say, the video was "shareworthy"—it got over 22 million views on YouTube within the first 24 hours, and must have been considered a success by editors and White House public relations coordinators. A *New York Times* story opined that the interview shows *BuzzFeed* News has emerged as a serious news organization as it partnered with the most official of sources—the White House—to put out a public affairs message while connecting with millennials (Ember, 2015). Importantly, it also showed *BuzzFeed*'s ability to apply the organizational brand underneath a normally dry political message—it is hard to imagine a similar video could have been produced by a legacy media company such as the *The Wall Street Journal* or *The New York Times*, for example.

One other finding of this study is *BuzzFeed*'s frequent use of social media as sources. Nearly one in 10 articles contained some form of social media sources. These were usually in a form presenting screenshots of people's tweets, Facebook posts, or Instagram posts about a topic without further editorial development. Scholars have discussed the use of social media sources in risks and crisis, particularly when journalists are working in emergency situations and are desperate to gather valuable information and report on as many aspects of the crisis as possible (Fontenot, et al., 2014; Westerman, et al., 2014). Although digital native news sites are not the only outlets to use social media sources (other cases are seen in *The New York Times* as well, for example) it still raised concerns ranging from the credibility of sources, to the quality of journalism by non-professionals, to ethical questions about permission of use or privacy.

## Conclusions

This study found significant differences in news coverage by *BuzzFeed* both pre- and post-leadership change in 2012. The findings correspond with what institutionalism theory has suggested regarding organizational level analysis. However, it takes more than a single study to determine whether the adoption of organizational forms is intentional. This also reflects the inherent limitations of content analysis: the connections between results and interpretation are speculative and implied by a correlation suggested in the literature. Future studies could conduct a survey of digital native media employees and managers to provide more direct evidence about how decisions were made in implementing changes and how adopting organizational forms impacts daily routines, financial motivations, and resource allocation.

This study is also limited by the fact the results may not be generalized to the entire population of digital native media. Digital native media companies are in different stages of their development—some of them are worth billions of dollars and expanding, while others remain small, nonprofit, and local (Jurkowitz, 2014). Their content and format specialization differs as well. For example, the Marshall Project is a nonprofit online journalism organization focusing on issues related to criminal justice. This case study is skewed toward digital native media companies with diverse content and formats, with more established distribution and branding, and whose changes are visible to the public eye because of their popularity.

Another limitation is that the sample for this study relied solely on *BuzzFeed*'s own archive. As Lacy et al., (2015) noted, using databases or archives as a sampling tool can challenge the comprehensiveness and comparability of the sample collected. To be specific, in this study, it's unclear how much of the content that was published in the early days was archived and whether the archived content was selected for any particular reasons or according to any specific news values.

However, despite these limitations, this study provides a unique look at the organizational norms and rules adopted by digital news media. It's promising that may will keep growing into a much bigger force in the news business, especially online news that is targeting younger users. It is important to continue learning more about these news organizations and how they can influence the traditional legacy news industry in the future.

## References

Barthel, M., Sherer, E., Gottfried, J., & Mitchell, A., (2015, July 14). News habits on Facebook and Twitter. Pew Research Center Journalism and Media. Retrieved from http://www.journalism.org/2015/07/14/news-habits-on-facebook-and-twitter/

Baum, M. (2002). Sex, lies, and war: How soft news brings foreign policy to the inattentive public. *The American Political Science Review, 96*, 91-109.

Bennett, W. L. (1996). An introduction to journalism norms and representations of politics. *Political Communication, 13*(4), 373-384.

Berkowitz, D. A. (1997). *Social meanings of news: A text-reader.* Thousand Oaks, CA: Sage.

Boczkowski, P. J. (2009). Rethinking hard and soft news production: From common ground to divergent paths. *Journal of Communication, 59*(1), 98-116. doi:10.1111/j.1460-2466.2008.01406.x

Boczkowski, P. J. & Peer, L. (2011). The choice gap: The divergent online news preferences of journalists and consumers. *Journal of Communication, 61*(5): 857-876. doi: 10.1111/j.1460-2466.2011.01582.x

Brown, J. D., Bybee, C. R., Wearden, S. T., & Straughan, D. M. (1987). Invisible power: Newspaper news sources and the limits of diversity. *Journalism & Mass Communication Quarterly, 64*(1), 45-54. doi:10.1177/107769908706400106

Carpenter, S. (2008). How online citizen journalism publications and online newspapers utilize the objectivity standard and rely on external sources. *Journalism & Mass Communication Quarterly, 85*(3), 531-548.

Carpenter, S., Nah, S., & Chung, D. (2015). A study of U.S. online community journalists and their organizational characteristics and story generation routines. *Journalism, 16*(4), 505-520.

Carr, D., (2012, February 5). Significant and silly at BuzzFeed. *The New York Times*. Retrieved from http://www.nytimes.com/2012/02/06/business/media/at-buzzfeed-the-significant-and-the-silly.html

Carr, D., (2014, January 29). As I was saying about Web journalism ... a bubble, or a lasting business? *The New York Times*. Retrieved from http://www.nytimes.com/2014/01/30/business/media/as-i-was-saying-about-web-journalism-a-bubble-or-a-lasting-business.html

Curran, J. (2010). Future of Journalism. *Journalism Studies,1*, 1-13.

Ember, S. (2015, February 8). Vox and BuzzFeed obtain interviews with Obama. *The New York Times*. Retrieved from  http://www.nytimes.com/2015/02/09/business/media/vox-and-buzzfeed-obtain-interviews-with-obama.html?_r=0

Friedman, A., (n.d.). Going viral. *Columbia Journalism Review*. Retrieved from http://www.cjr.org/feature/going_viral.php

Fontenot, M., Luther, C. A., & Coman, I. (2014). Coverage of Japan's tsunami included few social media sources. *Newspaper Research Journal, 35*(4), 141-153.

Ha, A., (2015, August 18). BuzzFeed confirms $200M investment from NBCUniversal. *Tech Crunch*. Received from http://techcrunch.com/2015/08/18/buzzfeed-nbcuniversal/

Hamilton, J. (2004). *All the news that's fit to sell: How the market transforms information into news*. Princeton, NJ: Princeton University Press.

Hester, J. B., & Dougall, E. (2007). The efficiency of constructed week sampling for content analysis of online news. *Journalism & Mass Communication Quarterly, 84*(4), 811-824.

Honan, M. (2014, December17). Inside the Buzz-Fueled media startups battling for your attention. *Wired*. Retrieved from http://www.wired.com/2014/12/new-media-2/

Jurkowitz, M. (2014, March 25). The growth in digital reporting. *Pew Research Center Journalism and Media*. Retrieved from http://www.journalism.org/2014/03/26/the-growth-in-digital-reporting/

Jurkowitz, M. (2014, March 26). Is there a business model to sustain digital native news? *Pew Research Center Journalism and Media*. Retrieved from http://www.journalism.org/2014/03/26/is-there-a-business-model-to-sustain-digital-native-news/

Krippendorff, K. (2004). Reliability in content analysis. *Human Communication Research, 30*(3), 411-433.

Lacy, S. (1987). The effect of intracity competition on daily newspaper content. *Journalism & Mass Communication Quarterly, 64*(2), 281.

Lacy, S., Wildman, S. S., Fico, F., Bergan, D., Baldwin, T., & Zube, P. (2013). How radio news uses sources to cover local government news and factors affecting source use. *Journalism & Mass Communication Quarterly, 90*(3), 457-477.

Lacy, S., Watson, B. R., Riffe, D., & Lovejoy J. (2013). Issues and best practices in content analysis. *Journalism & Mass Communication Quarterly, 92*(4), 791-811.

Lemert, J. B. (1989). *Criticizing the media: Empirical approaches*. Newbury Park, CA: Sage.

Lowrey, W., & Woo, C. W. (2010). The news organization in uncertain times: Business or institution? *Journalism & Mass Communication Quarterly,87*(1), 41-63.

Lowrey, W., Parrott, S., & Meade, T. (2011). When blogs become organizations. *Journalism, 12*(3), 243-259.

Lowrey, W. (2012). Journalism innovation and the ecology of news production institutional tendencies. *Journalism & Communication Monographs, 14*(4), 214-287.

Maynor, J. (2014, Summer). *The bastard child of the cat listicle and the concern troll: New media, democratic practices and domination*. Paper presented at the meeting of American Political Science Association, Washington, DC.

Millennials and political news, (2015, May 28). Trust levels of news sources by generation. *Pew Research Center Journalism and Media*. Retrieved from http://www.journalism.org/2015/06/01/millennials-political-news/pj_15-06-01_millennialmedia13/

Miller, C. (2014, August 12). Why BuzzFeed is trying to shift its strategy. *The New York Times*. Retrieved from http://www.nytimes.com/2014/08/13/upshot/why-buzzfeed-is-trying-to-shift-its-strategy.html

Moeinifar, J. (2015, November 24). How digital publishers are cashing in on increased mobile ad spend. *Viafoura*. Retrieved from http://viafoura.com/blog/digital-publishers-mobile-ad-spend/?__vfz=tc=84Z4hX9dOua

Pew Research Center (2015). Digital: Top 50 Digital Native News Sites (2015). Retrieved from http://www.journalism.org/media-indicators/digital-top-50-digital-native-news-sites-2015/

Rauch, J. (2015). Exploring the alternative-mainstream dialectic: What "alternative media" means to a hybrid audience. *Communication, Culture & Critique, 8*(1), 124-143.

Riffe, D., Ellis, B., Rogers, M. K., Van Ommeren, R. L., & Woodman, K. A. (1986). Gatekeeping and the network news mix. *Journalism & Mass Communication Quarterly, 63*(2), 315-321.

Riffe, D., Aust, C. F., & Lacy, S. R. (1993). The effectiveness of random, consecutive day and constructed week sampling in newspaper content analysis. *Journalism & Mass Communication Quarterly, 70*(1), 133-139.

Riffe, D., Lacy, S., & Fico, F. (2014). *Analyzing media messages: Using quantitative content analysis in research*. New York, NY: Routledge.

Ryfe, M. D. (2006). The nature of news rules. Political Communication, 23(2), 203-214.

Schudson, M. (2003). *The sociology of news*. New York, NY: W. W. Norton.

Shafer, J. (2015, November, 20). Welcome to the freak show, Gawker. You'll fit right in. *Politico*. Retrieved from http://www.politico.com/magazine/story/2015/11/gawker-politics-213379 - ixzz3tGabjRPl

Shoemaker, P. J. (2009). *Gatekeeping theory*. New York, NY: Routledge.

Shoemaker, P. J., & Reese, S. D. (2011). *Mediating the message*. New York, NY: Routledge.

Somaiya, R. (2014, February 9). Bill Keller, former editor of the Times, is leaving for news nonprofit. *The New York Times*. Retrieved September 17, 2015 from http://www.nytimes.com/2014/02/10/business/media/bill-keller-former-editor-of-the-times-is-leaving-for-news-nonprofit.html?_r=0

Somaiya, R. (2015, November 17). Gawker to retool as politics site. *The New York Times*. Retrieved from http://www.nytimes.com/2015/11/18/business/media/gawker-politics-media.html?_r=0

Sparrow, B. H. (2006). A research agenda for an institutional media. Political Communication, 23(2), 145-157.

Stempel, G. H. (1985). Gatekeeping: The mix of topics and the selection of stories. *Journalism and Mass Communication Quarterly, 62*(4), 791.

Sundar, S. S. (2008). The MAIN model: A heuristic approach to understanding technology effects on credibility. In M.J. Metzger & A. J. Flanagin (Eds.), *Digital media, youth, and credibility* (pp. 72-100). Cambridge, MA: The MIT Press, doI: 10.1162/dmal.9780262562324

Swisher, K. (2015, July 30). NBCUniversal poised to make big investments in Buzzfeed and Vox media. *Recode*. Retrieved from http://recode.net/2015/07/30/nbcuniversal-poised-to-make-big-investments-in-buzzfeed-and-vox-media/

Tuchman, G. (1973). Making news by doing work: Routinizing the unexpected. *American Journal of Sociology, 79*(1), 110-131. Retrieved from http://www.jstor.org/stable/2776714

Tuchman, G. (1978). *Making news: A study in the construction of reality*. New York, NY: Free Press.

Wang, X. & Riffe, D. (2006). An exploration of samples sizes for content analysis of the *New York Times* web site. Web *Journal of Mass Communication Research, 20*. Retrieved from http://dspace.nelson.usf.edu/xmlui/handle/10806/2879

Weaver, D. H. (2007). *The American journalist in the 21st century: U.S. news people at the dawn of a new millennium*. Mahwah, NJ: L. Erlbaum Associates.

Westerman, D., Spence, P. R., & Van Der Heide, B. (2014). Social media as information source: Recency of updates and credibility of information. *Journal of Computer-Mediated Communication*, 19(2), 171-183. doi:10.1111/jcc4.12041

***Lu Wu** is a doctoral student and Roy H. Park Fellow in the School of Media and Journalism at the University of North Carolina-Chapel Hill. She earned a Master of Science degree in journalism from Ohio University. Her research focuses on organizational behavior of digital media. She has also conducted research on the topics of media representation of post-traumatic stress disorder in veterans and the framing effects of reporting about electronic cigarettes.*

# Toward Omnipresent Journalism: A Case Study of the Real-Time Coverage of the San Antonio Spurs 2014 NBA Championship Game

*Zhaoxi (Josie) Liu*

*Based on a field study, this paper examines how the San Antonio Express News practiced omnipresent journalism in its coverage of the Spurs' NBA 2014 championship game. This study refines the concept of omnipresent journalism as having two dimensions: time (real-time coverage) and space (on multiple platforms); and consisting of three rounds of news presentation: live tweets, real-time website updates and print paper. Such omnipresent journalism primes mobile journalism and requires journalists to be proficient in multitasking while prioritizing their tasks. Meanwhile, in the omnipresent news environment, journalists have perceived the print newspaper as the holy grail of quality journalism. Journalists also need to brace themselves for glitches, technological and otherwise.*

## Introduction

This article presents a case study of the multi-platform, real-time coverage of the San Antonio Spurs' 2014 NBA championship game by the *San Antonio Express* News (hereafter the Express News), examining how the coverage strived toward omnipresence, in both temporal and spatial senses, through three rounds of news presentation: live tweets first, then website real-time updates, and finally, print.

The study focuses on the operation of the metro reporters as they went around the city to cover fan reactions on game night, rather than the coverage of the game per se by sports reporters. Using ethnographic methods, this study provides a close look at the operation from behind the scenes and assesses its broader implications for journalism.

Case studies have been widely carried out by journalism scholars for its advantage in providing in-depth examination with a clear focus, hence the chance to investigate real-world examples in a nuanced manner and providing insights that may not otherwise obtainable (Robinson, 2009b). There have been, for example, case studies of news coverage of Hurricane Katrina (Robinson, 2009a) and the murder of a police officer and the ensuing manhunt (Marcionni, 2013), live tweeting of the presidential primary debate (Heim, 2015), and the operation of a particular news organization (Robinson, 2009b).

The study presented here focuses on the news coverage of one event by one news outlet and has its limitations—a short time period and limited news material. However, the Spurs game was not just another event. In San Antonio, a possible win of the NBA title by the Spurs on their home court generates enormous local interest and is one of the biggest and most important event coverage the *Express News* undertakes. It is a major journalistic operation and a chance to observe and study such an operation from the inside is scarce. In addition, this operation embodies the key aspects of news production routines in the newsroom and therefore the analysis transcends just one particular event. From day to day, many other stories, from the breaking news of a crime to the local celebration of July 4, are covered more or less the same way: following the three rounds of presentation (discussed in detail later) and striving to be omnipresent. Understanding how such a major event is covered using digital tools and platforms, therefore, provides valuable insight into the new trends of journalism practice.

This case study, from just one news organization, may not explain what happens at other news originations. Nevertheless, through dissecting the process of covering one major event, it endeavors to address some broader implications for journalism in the age of social media, mobile phones and distributed content.

**The Newspaper Industry's Struggle and Omnipresent Journalism**

It is no longer news that the newspaper industry is struggling to stay alive and the possible disappearance of the print newspaper all together has been speculated for some time (Brock, 2013; Westlund, 2013). The number of daily newspapers, as well as their circulation, has been on steady decline in recent decades. There were 1,878 daily newspapers in the United States in 1940, and that number dropped to 1,331 in 2014. Total daily circulation peaked in 1984 at more than 63 million and dropped to just 40 million in 2014; Sunday circulation follows the same trajectory (National Newspaper Association, 2015). In the 1940s, over one-third of Americans received a daily newspaper. By the end of the first decade of the 21st century, readership was down by about half to less than 15% of the population (Kamarck & Gabriele, 2015).

Declining readership goes hand-in-hand with decline in advertisement revenue, and the economic recession in 2008 exacerbated the situation. In 2007, newspapers in the United States made around $42 billion in print advertisement revenue, and in 2014, the number dropped to around $16 billion. Even though newspapers have started to make profit from their digital products, the increase in digital advertisement revenue—$3.2 billion in 2007 and slightly up to $3.5 billion in 2014—is almost trivial comparing with the loss of print advertisement revenue (Barthel, 2015). The economic hardship of the industry also led to the downsizing of the journalism workforce. In 2007, there were 52,600 full-time newsroom employees in newspapers. Two years later, 20% of those jobs were gone and the lost jobs may never return despite the recovery of the economy (Jurkowitz, 2014). According to the American Society for Newspaper Editors, total newsroom employment dropped to 32,900 by 2015 (Kamarck & Gabriele, 2015).

In 2014, the newspaper industry faced yet another major change in readership: 39 of the top 50 digital news websites, including some newspaper websites, have more traffic to their sites and associated applications coming from mobile devices than from desktop computers, prompting a Pew Research Center report to declare, “Call it a mobile majority” (Mitchel, 2015, para. 1). Meanwhile, more and more Web and mobile users are getting their news from social media such as Facebook (Mitchel, 2015). In short, the changing news consumption habits, mostly driven by the fast-evolving mobile devices and social media, demand constant adjustment and adaptation of newspapers and other news organizations.

The rhetoric of the moribund newspaper notwithstanding, there are still over 1,000 newspapers in circulation in the United States and they are still striving to survive, even thrive (National Newspaper Association, 2015). In the past eight or nine years, for instance, newspapers have rushed to create mobile applications in an attempt to gain a foothold on the home screen of the mobile phones (Westlund, 2013). A 2011 survey revealed that 62% of daily newspapers with circulations above 25,000 had a mobile app. A majority of those without a mobile app planned to develop one within a year (Jenner, 2012). Today, very few newspapers, if any, do not have a mobile app. *The Express News* and mysa.com (the *Express News*’s free website) each has its own mobile app.

To survive the digital age, one strategy newspapers have tried to adopt is to become omnipresent, being available on as many different platforms as possible, as discussed by Westlund (2013). Beside such spatial presence, this study adds a temporal dimension to further enhance the concept of omnipresent journalism—the kind of journalism that presents news in real time, as well as on multiple platforms: print, website, social media, mobile apps, etc. Taking into account the temporal dimension is particularly relevant to journalism as timing is a crucial component of news. In other words, the concept of omnipresent journalism discussed in this study is located in the meta-perspective of the survival of the newspaper industry, as omnipresent journalism can be regarded as the industry’s response to various crises it is facing. This concept indicates the industry’s constant adaptation to ever changing technologies and ways of conducting journalism, and its search for a future.

The word “omnipresent” has been used in journalism to describe the pervasive presence of news in today’s society (Purcell, Rainie, Mitchell, Rosenstiel, & Olmstead, 2010). The theoretical contribution of this study lies in its advancement of “omnipresent journalism” as a scholarly concept, including both temporal and spatial dimensions and useful in assessing and explaining a new trend in journalism practice. As a scholarly concept, “omnipresent journalism” is rather new, but the phenomena that inspire the concept have existed for some time. Robinson (2011), for example, has studied journalism as a process in a mobile obsessed and social media saturated environment, comprised of a fluid, on-going productive process as opposed to producing just a finite print product. She depicts the entire day-to-day operation in the newsroom as an “authorship uncertain and work forever unfinished” process, due to the involvement of the audience through online comments and the need to produce news for multiple platforms using multiple technologies. The coverage of the Spurs game was also a multi-author, multi-platform, multi-product process. However, this study stresses that the process of covering the game is not just *for* producing a product; it is the product. Such a shift is a distinct feature of journalism in an age of mobile devices and social media.

As demonstrated through the coverage of the Spurs game, the entire process of the coverage was presented to an audience through live tweets and constant website updates. What the audience consumed, from what they saw on their mobile phones, computers or other devices on the game night, to the print newspaper they read the next morning, was no longer a finite news product, but a process. It is not just journalism *as* or *in* process; it is journalism *of* process, involving multiple platforms, multiple types of journalistic product, multiple tools/devices, and multiple deadlines. And such a process, this study argues, is omnipresent in both temporal and spatial dimensions and therefore embodies the practice of omnipresent journalism.

To better understand such omnipresent journalism, this study explores the following questions:

**RQ1: How did the Express News practice omnipresent journalism in its coverage of the Spurs championship game, both in terms of time and space?**

**RQ2: What are such omnipresent journalism's implications for journalism in a broader sense?**

## Methods

The *San Antonio Express News* is the only daily newspaper serving the San Antonio area. A Hearst newspaper, the *Express News* has a daily paid circulation of about 100,000 and 200,000 on Sunday (print and digital combined). The newsroom employs more than 140 reporters and editors. In the week ending December 6, 2015, the newspaper's website, http://www.mysanantonio.com, had 11.8 million page views and 1 million unique visitors, which is a good snapshot of the site's traffic. The annual page-view total in 2015 was over 500 million, based on figures provided by the newspaper. Content on mysa.com is free, but the newspaper has another, fee-based website, called the premium website: www.expressnews.com, launched in 2013 (Heckman, 2013). The focus of the current study is the free website because it is the main website that carried the real-time coverage of the Spurs' 2014 triumph.

The main method for this study is ethnographic field research that involves observation and interviews. Ethnographic studies of news organizations have contributed to the field of journalism studies several classic works, covering different aspects of news production, from productions routines, news values to professional ideologies (Fishman, 1980; Gans, 1979; Gitlin, 1980; Tuchman, 1978). These works provide evidence of the methodological strengths of field research in studying journalists and their practices. Through its close contact with the field and people in the field, such studies can provide rich insights into the nature of news production and characteristics of practitioners, allowing studying them from the inside (Mabweazara, 2013; Paterson, 2008). The methods are open to contingencies and unexpected situations emerging in the field, and therefore are flexible in data collection, which allows more nuanced understanding of the subject (Berkowitz, 1989; Cottle, 2007). Such flexibility is particularly useful in investigating current developments in journalism as the newsrooms are experiencing fast and complex transformations on a daily basis (Mabweazara, 2013).

The findings of the current study are based on three kinds of data: field notes, interviews, and documents. Field notes were taken during an eight-week field study, in June and July of 2014, in the newsroom (mostly the Metro Desk) to explore journalists' use of Twitter in news coverage. Realizing that the coverage of the Spurs game was a prominent example of using Twitter, the researcher followed the process of the coverage, from pre-coverage meetings to the aftermath. The researcher also accompanied a reporter to a sports bar and observed her work during the entire game.

Eight weeks are not a very long period for field research, but adequate for gathering ethnographical data for the question at hand. The first half of the field study was devoted to observing journalists' use of Twitter and the second half to interviews. The research was designed as such in order to have a data set that includes journalists' practices and their own reflections of the practices (Atkinson & Coffey, 2003; DeWalt & DeWalt, 2001).

During the first four weeks, the researcher came to the newsroom at least four days a week, each time spending two to four hours in the newsroom, observing and talking with journalists. In addition, the researcher accompanied some journalists on their reporting assignments to public meetings, crime scenes and other events, including the Spurs' championship game. During the second four weeks, the researcher conducted semi-structured interviews with 18 *Express News* reporters, editors and online editors, including six reporters and editors who participated in the game-night coverage. Each interview lasted between 40 to 90 minutes and were audio recorded and later transcribed. Aside from these sit-down, one-on-one interviews, there were also dozens of shorter, less formal interviews with journalists regarding their operations. This study draws upon both the semi-structured and less formal interviews with journalists who covered the game, as well as those who did not. Per IRB requirements, no individual is named in this article, although the newspaper has agreed to be identified.

Documents used in this study are news artifacts related to the coverage under investigation, including digital replica of the newspaper, screenshots of the website and reporters' Twitter postings. Some of the screenshots were taken on the game night and those webpages are no longer available. Some, such as the Twitter postings, were gathered after the game. The field notes and interviews are examined together with the news artifacts to provide a rather comprehensive assessment.

## Results

The first part of this section, "The Operation," answers the first research question about how the *Express News* practices omnipresent journalism in its coverage of the Spurs' championship game. The second part of this section, "Implications for journalism," answers the second research question about this approach.

### The Operation

The San Antonio Spurs advanced to the 2014 NBA finals after defeating the Oklahoma City Thunder on May 31, 2014, in the sixth game of the Western Conference finals. They faced the Miami Heat for the second consecutive year in the finals. The year before, the Spurs lost to the Heat after a gruesome seven-game battle. They were ready to reclaim the trophy in the summer of 2014.

The Spurs won the first game of the series on June 5 but lost the second game three days later. They came back to win the third and fourth games and were only one win away from their fifth NBA title. Game 5, scheduled for Sunday, June 15, was to be held in San Antonio and the enormous excitement that had been building up in the city reached its apex. “Go Spurs Go!” had become the punchline for just about every conversation and everybody in the city had donned a Spurs jersey, it seemed, including several editors and reporters in the *Express News* newsroom. As the rest of the city was preparing for the ecstasy of welcoming back the NBA trophy in the hands of their beloved Spurs, the newsroom had been preparing for the news coverage of that huge moment.

### Planning

On Friday, June 13, the metro editor was going around the newsroom, telling reporters about their assignments for the game night. At 5:30, a meeting was convened. At the meeting were several interns, the metro editor, two other editors, a Web editor, a feature writer, and a couple of reporters.

The metro editor assigned about a dozen reporters to several locations across the city, including a couple of sports bars, a local theater where fans gathered to watch the game, and downtown, where the post-game celebration would take place. (Reporters sent to the AT&T Center, where the game would be played, were from the Sports Desk, which was outside the parameter of this study)

The metro editor told the reporters that each of them was expected to send out three to five tweets of the scene, and post videos and photos of the fans. “We want you to live tweet,” said the metro editor. “As soon as you reach your post, we want you to start tweeting, taking pictures.” The feature writer mentioned to the reporters that if Twitter didn’t go through, use a text message service that would send the text message to Twitter. “Old school always goes through,” the writer commented.

The Web editor asked the reporters to email her their vignettes—quick, short snap shots of interesting moments, mini stories of no more than five paragraphs. Reporters were also urged to make sure their mobile phone was fully charged and bring a charger to the assignment, since they would be mostly using their phone to write and send content.

The metro editor told the reporters to send a minimum of four vignettes to mysa.com, and "you should hold back something for the print story." The print paper was set to publish a main story summarizing fan reactions from across the city and the feature writer penning that story would select material from the vignettes posted on mysa.com. A limited number of vignettes would also be printed and the deadline for filing these vignettes was 10:30 p.m. The deadline for the main story was 11 p.m. "You got to make your deadline. We have zero wiggle room in this plan," another editor told the reporters. (field notes, June 13, 2014).

Sunday, June 15, the game was on.

**Game Night**

The reporter arrived at the sports bar assigned to her at around 5:40 p.m. on Sunday. The bar was already packed with only a couple of empty tables. Right after taking a seat, the reporter took a photo of the scene with her phone and tweeted the photo. Pizza was ordered. Throughout the night, the reporter would sit down and take a few bites, get up to do some reporting—interviewing, taking photos or videos, tweeting, and writing—and then come back to the table when she got a moment to take a few more bites.

She talked with some fans and the waitresses and jotted down some notes, but recorded the conversation on her phone and transcribed from her phone when writing the story. "They talk too fast. They are too excited. I'm not fast enough," she said. After using her phone for some time, she took out her laptop. She was trying to upload the videos on her phone to Brightcove, an online video hosting platform, and then tweet the link. But her phone wouldn't upload the video and she had to transport the videos to her laptop and then upload using the laptop.

After the game started, the bar became noisier: about 10 TV sets all around, approximately 100 excited fans shouting, laughing, and talking. The reporter said she needed a quiet place to transcribe interviews from her phone so she went out to the patio. While sitting outside, she spoke to more fans. She sat at the picnic table on the patio and typed on her laptop for more than one hour, as the sky went from the golden twilight to completely darkness (field notes, June 14, 2014). She came back inside when the game was in the last quarter, around 9:30 p.m., sent out a couple of more tweets, including a video of fans chanting "Go Spurs Go" in the final moment of Spurs' win, before signing off for the long night. The following video shows the actions and atmosphere inside the sports bar.

Based on the tweets and vignettes collected after the game, the reporter sent out 12 tweets (before the game, the tipoff, during the game, fan pictures, fan videos, links to the live coverage on the mysa.com, etc.) and four vignettes during a time period of nearly five hours, from one hour before the tipoff, when she first arrived at the bar, to about one hour after the game was over. Besides that, she wrote a short story for the print paper.

## The Outcome: Three Rounds of News Presentation

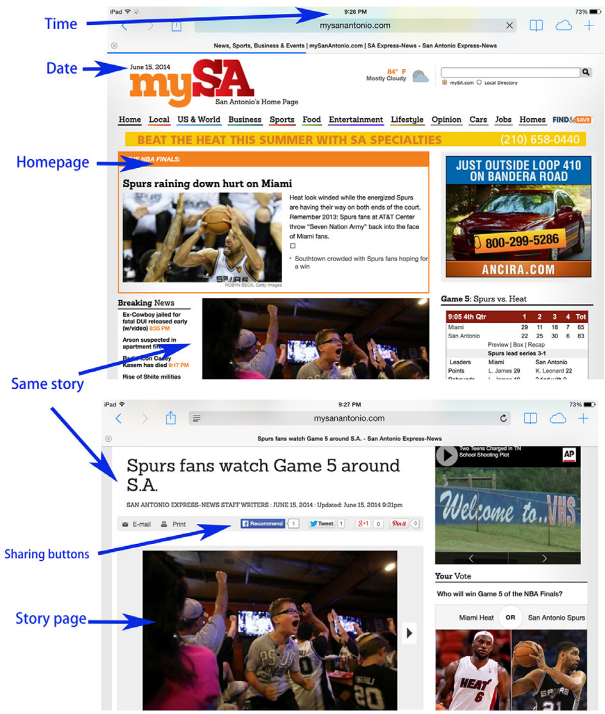
The outcome of this operation was a coverage of the game night presented in three rounds, on different platforms at different times.

The first round of presentation was the reporters' tweets. The reporter being shadowed, as well as other reporters in other locations across the city, took photos and videos of the scene upon their arrival and tweeted fan reactions throughout the game (field notes, June 17, 2014). They tweeted big scenes in various venues, close up shots featuring fans waving flags, posing in Spurs jerseys, holding a board cutout of the Coyote, the Spurs' mascot, among other fan festivities, as well as videos of them chanting, honking, dancing, etc.

The website staged the second round of presentation as it gathered and presented, in real time, vignettes, photos and videos emailed or tweeted by the reporters. By the third quarter of the game, the home page had been updated to feature the story of fan reactions from across the city, titled "Spurs fans watch Game 5 around S.A.," with a slideshow displaying photos and videos taken by reporters and photographers. Many of the photos were fetched directly from the reporters' tweets. The story itself is an aggregation of vignettes written by reporters, each about 100 words, with time and location as the heading and the reporter's name at the end.

The body of the story kept growing as reporters kept sending in vignettes throughout the night. This is very similar to live blogging, where time stamped material is added progressively to the body of the story in a reverse chronological order, with the latest update at the top of the webpage. This format has been used by other news websites, such as *The Guardian*, to cover major sports games as well as breaking news like the 2005 London subway bombing (Thurman & Walters, 2012). The slideshow kept growing as well. By the morning of June 16, it had more than 300 photos and videos. The story and the slideshow were shareable on Google+, Facebook, Twitter, Pinterest and more.

Following are two screenshots of mysa.com from the game night.




The print paper was the last product to be put together that night and formed the third round of presentation. The next morning, people around the city saw the *Express News* with a giant, full-page photo featuring key players holding the trophy with big grins and a huge headline: Redemption. Cinco! (Spanish for “five”). Inside the A section are three pages of coverage of the win. There is the main story summarizing fan reactions across the city during and after the game, with many segments taken from the vignettes posted on mysa.com the night before. There is another story about fans who attended the game at the arena, and five standalone vignettes by five different reporters, including the one the researcher accompanied.

To answer RQ1, the *Express News* carried out omnipresent journalism, temporally and spatially, through three rounds of news presentation. In terms of time, the coverage spanned from at least one hour before tipoff until way past the end of the game, and the coverage of the fans’ celebration continued into the next day, as the homepage of the website on Monday morning was all about the post-game celebration. In terms of space, the coverage can be viewed everywhere: on the computer, the phone, the website, Twitter, other social media through sharing, and finally, the print paper.

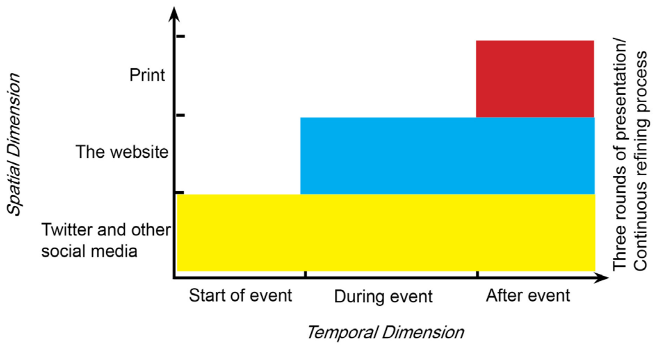



Figure 1 The Concept of Omnipresent Journalism

## Implications for Journalism

Having demonstrated the process of the process, this section answers RQ2 regarding the broader implications of omnipresent journalism from four aspects: mobile journalism, multitasking while prioritizing, the print paper as the Holy Grail and glitches.

Based on observations in the newsroom, the three rounds of presentation are routinely employed. Be it community events, school board meetings, or city council meetings, reporters would always take photos of the scene and tweet them right away, usually before the event even started. Several education reporters said they often live tweet the school board meetings (interviews, July 7, 18, 2014). When the news is important enough, reporters would write a short blurb to be posted on mysa.com as soon as possible, and then they would do more interviews throughout the day and develop the story into something more substantial and polished to be printed. The newspaper tries to be omnipresent not just during a major event like the Spurs game, but every single day. And therefore, the following discussion of the implications, even though mostly based on the game coverage, is for journalism in a broader sense.

## The Rule of the Day: Mobile Journalism

Observations and conversations with journalists throughout the fieldwork unmistakably point to one major player in today's news coverage: the mobile phone. The reporter at the bar used her phone to take photos and videos and tweeted them. She also used the phone to record the interviews. As an experienced journalist, she brought her laptop in case her phone wouldn't work in some scenario, which turned out to be exactly the case.

Other reporters covering the game, who were considerably younger, said they did not bring a laptop and worked entirely from their mobile phone, with some help of the classic notebook and pen. One of them said the phone was much more portable while the laptop was bulky and inconvenient. "When I need to get up, I would have to close the computer and put it away" while a phone can be carried everywhere easily. In other words, the mobile phone is essential, and the laptop is optional. In fact, the Game 5 coverage can be seen as a new kind of news-making practice that would have been impossible without the mobile phone (Westlund, 2013). Mobile journalism, journalism produced and consumed on the mobile phone, has become the rule of the day.

Nor would have the coverage been necessary, perhaps, if not for the mobile phone. The need to produce such omnipresent journalism is mostly driven by the omnipresent mobile phones: they are always on, carried everywhere, and always demanding something to show. People at the *Express News* are very aware of the power of the mobile phone and what comes with it, such as social media and shareability. "It's all about getting it out there and engaging the readership," said a Web editor (interview, July 23, 2014). The importance of the mobile phone has become a widely acknowledged industry trend. "I think we just want to be where people are, and we want to provide them great experiences wherever they are," says Dan Check, vice-chairman of The Slate Group (Mullin, 2015, para. 8).

In short, the omnipresent mobile phone has made it necessary for news coverage to be there all the time and on multiple platforms. Omnipresent journalism is made possible largely by mobile journalism.

**The Multitasking, and Prioritizing, Journalists**

To accomplish such omnipresent journalism—during the big event as well as daily reporting—journalists are destined to multitask, which puts more demand on the journalists.

Throughout the coverage of the Spurs' game, the reporter being observed was multitasking the entire time. Working with two screens simultaneously, she took photos and videos on the phone and then uploaded the material to the laptop, recorded the interviews on the phone and listened to the recording and wrote the story on the laptop. During that night, she was juggling interviewing, photo shooting, tweeting, writing stories, texting and filing stories, and keeping herself from starving. Her job was not just to report and write, but also to take visual materials and tweet live. She was performing multiple tasks simultaneously, as a reporter, photographer and social media contributor. She was not alone. Another reporter said he had his phone in his hand, pen in his mouth, notebook tucked between his chin and neck, when he needed to type something on the phone while still doing interviews.

To handle such demanding tasks successfully, reporters not only need to train themselves into proficient multitaskers, but also learn another necessary skill: prioritization.

Multitasking without prioritization is only going to lead to more stress and possible failure. In today's newsroom, reporters face multiple deadlines. On the game night, for example, the deadline for live tweeting was, of course, immediate. The deadline for the vignettes to be posted on the website was ongoing but imminent. The website wanted to post fresh material as soon as possible and update frequently. In addition, the reporters were supposed to write vignettes for the next day's paper, and those vignettes should be different from what was already posted on the website. The deadline for the print piece was 10:30 p.m.

Given the rolling deadline, reporters needed to learn to prioritize the tasks. The reporter being observed on the game night sent out tweets as soon as she arrived at her assigned location, just to get something out first. She then spent time doing interviews for the vignettes. She got a text message from an editor asking for the vignettes and she sat down to write them on the patio. While she was writing, she ran into another group of fans and spoke with them, and took some photos and video. Then she decided she needed to prioritize the writing because the website needed something to post as soon as possible and the 10:30 deadline for the print piece was approaching. That was when she told the fans, who were still talking with her about their love for the Spurs, "Okay, I got to file this. I have half an hour to write this." The fans left and the reporter sat alone in the dark on the patio to finish the writing (field notes, June 15, 2014; interview, July 7, 2014). After she filed her story, she tweeted the photo and video she took of another fan, indicated by the time stamp on her tweets. Apparently, she prioritized writing over live tweeting at that point of time, when facing imminent deadlines of filing vignettes. She mentioned using similar strategies for other assignments as well, all because she needed to live tweet, break the news on mysa.com, and still write a full story for the print paper.

Prioritization thus becomes a new, important skill to learn. Said this reporter: "It takes some level to understand what's expected of you and what you can produce. To understand, okay, well, if I need to produce this, it's gonna require this much time, so I better start addressing that now" (interview, July 7, 2014). According to another reporter, the key here is finding the balance. "How much should I be tweeting, how much should I be interviewing people, how much should I be writing or taking photos right now?" (interview, July 14, 2014). These are indeed the questions that the multitasking journalists need to figure out in order to meet the demands of omnipresent journalism.

**The Holy Grail: The Print Paper**

The three rounds of presentation: live tweets, website, and print, constitute a continuous refining process. In this process, for better or for worse, the print product has become something like the Holy Grail of journalism, highly valued and sought after by journalists. This phenomenon will be explained through tracking one particular episode reported by the reporter being observed, as it went through the refining process.

Soon after the game's tipoff at 7 p.m., the reporter met in the bar a father with a daughter, both wearing sparkling golden fedoras to express their anticipation of winning the trophy. The reporter took a photo of them and tweeted it right away: "The Balakit family is all blinged-out in honor of the @spurs #GoSpursGo." This tweet is pretty much raw material, as the reporter simply took a photo and tweeted it instantly, without much modification.

By 9 p.m., this same photo was included in a slideshow put together by mysa.com to accompany the collection of vignettes titled: “Spurs fans watch Game 5 around S.A.” In the slideshow, the cutline of this photo is slightly different from the tweet: “The Balakit family is all blinged-out in honor of the Spurs as they watch Game 5 at Freetail Brewing Co. on Sunday, June 15, 2014.” The Web editor had been monitoring reporters’ Twitter accounts and getting photos from the tweets. When the photo showed up on the website, it was already a piece of raw material repurposed. It was no longer a standalone tweet but part of a slideshow of hundreds of photos and videos taken by various reporters and photographers. The photo was now curated and reorganized as part of a different product, although the photo itself has not been modified. The cutline of the photo was mostly copied and pasted from the tweet, less the @ and # but adding time and location to fit the format of the slideshow. The spontaneous tweet was now slightly refined.

But it was not until the reporter wrote the story for the print paper that background of the photo was really fleshed out. She featured this father and daughter in a short story about how the game made the Father’s Day special for some fans. Another family of fans was also mentioned in the story. It had vivid details and quotes that could not have been presented with 140 characters.

At the planning meeting two days earlier, editors had instructed the reporters to save the best material for the print (field notes, June 13, 2014). The reporter observed by the researcher followed that instruction. Among all the tweets and vignettes she produced that night, the print story took the most time to write and was the most thoughtful piece. By the time it appeared in the paper, it had gone through a couple of editors and designers, becoming a rather refined product. The story was nicely laid out with the other four vignettes, side-by-side in single columns, with a big, cross-page photo on top and a banner headline: “S.A. celebrates its team.” The paper was sold out.

Among a dozen of reporters dispatched to cover fan reactions that night, only five of them had a bylined, standalone vignette printed in the next day’s paper.

During the eight-week field research, various reporters and editors expressed their high esteem for the print product. “I kind of see the printed word as the most valued. It costs more. It’s more work to produce. There is more thought put into it,” said a 58-year-old editor. “Deep down inside, that is what journalists today still want” (interview, July 2, 2014). The editor was largely right. The reporter being observed, who is in her early 30s, said she felt the real marker for quality journalism is still the stories that are “good enough to get in the paper. For me, it means more to have a story on the front page than just posted online” (interview, July 7, 2014).

Even interns in their early 20s agree. “I’m more excited opening up the paper and seeing my story than just being able to look at it and send people a link,” said one intern. “Anybody can post something online, on the blog; but not everybody gets the stuff actually printed. So yeah, I like seeing my stories in print better.” Indeed, a byline in print symbolizes authority and carries a sense of validation (Robinson, 2011).

When it is so easy to tweet and post articles online with virtually no space limit, the print product becomes a scarce resource that presents only the best of the best, hence marking the quality of journalism. The question is, if one day all newspapers cease to be printed, what would journalists hold as the marker of quality journalism? For now, the Express News, as many newspapers around the country, is a hybrid of print and online journalism. Having both fits the omnipresence strategy, in time and places, and creates some sort of synergy (Westlund, 2012; Westlund & Fardigh, 2011).

**The Glitches**

Omnipresent journalism, meanwhile, encounters inevitable glitches. Technological glitches are commonplace. The reporter at the bar could not upload videos from her phone to a website and had to transfer the videos to her laptop, spending more time and effort. A couple of other reporters had trouble posting tweets due to poor Internet connections, and one of them resorted to the texting service that sent text messages to Twitter (field notes, June 15, 17, 2014; interviews, July 7, 14, 2014). As an editor said, in a world that is filled with devices, journalists sometimes are at the mercy of technology (interview, July 2, 2014). They often find themselves having to do more digital troubleshooting than content editing (Robinson, 2007).

There are also human errors. Having to juggle between the website and the print posed some challenges in a major coverage like the Spurs game. The reporters were supposed to send vignettes to be posted on mysa.com throughout the night and the main story in the print paper would draw on these vignettes. The reporters were also instructed to set some material aside, supposedly the best material, for the next day's print paper only. One reporter, however, confused these different type of stories and filed the same story to both the website and the city desk, resulting in the same episode appearing on mysa.com during the game, and in both the main story and the standalone vignette in the print paper the next day, an editor said (field notes, June 17, 2014).

Meanwhile, the process of such omnipresent journalism was unfolding right before the public eye through the three rounds of presentation, with Twitter being the rather raw reporting, the website aggregating with some curation, and finally the print carrying more refined stories. The process was no longer invisible to the public, but in full display online and on social media. The journalistic product consumed by the audience was no longer just the finished print paper as it was in the old times, but the entire process, from the raw material on Twitter to more polished stories in print. In fact, for the coverage to be omnipresent, to occupy all the time and space, it is almost necessary for the news organization to present the entire process rather than just one finite product. Omnipresent journalism is also journalism of process.

The following figure illustrates the key elements of the concept of omnipresent journalism discussed above.

## Conclusions

This case study explored how the San Antonio Express News practiced omnipresent journalism in its coverage of the Spurs' NBA 2014 championship game. Such omnipresent journalism is accomplished in two dimensions—temporal and spatial—and through three rounds of news presentation—live tweets, real-time website updates and the newspaper. As such, the coverage was done in real time of the game and appeared on multiple platforms: Twitter, website, print, and other social media through sharing, to be viewed on the phone, other mobile devices, computer, and in print. The three rounds of presentation allowed the audience to consume not just a slideshow or article, but the entire process of news production. Omnipresent journalism, therefore, is journalism of process, in that the process has become an integral part of the product.

Such omnipresent journalism has broader implications for journalism in general. In the journalistic practice that strives to be omnipresent, the mobile phone plays the vital role, both in terms of the need to cater to people's news consumption habits and being the essential tool for journalists. The demand of omnipresence puts a rather high demand on journalists, who have to be proficient in multitasking while still knowing how to prioritize their tasks as they face several different deadlines for different type of content they are tasked to produce. A lot of the content they produce on a daily basis, including the game night, is for online platforms, be it live tweets (text, photo, video, etc.) or website updates. But they save the best for the print, as the print is the last and most refined product of the day, and journalists have a very high esteem for the print product. Needless to say, from the first tweet of the scene to the newspaper being put together, it is often a long day for the reporters and editors and they have to brace themselves for possible glitches.

With analysis of both the temporal and spatial aspects, this study advances the concept of omnipresent journalism to be more comprehensive and have more interpretive power. The concept can be used to theorize an emerging mode of news production at newspapers; a mode that integrates the traditional/print and the emerging/online journalistic practice. The concept as presented in this paper also bridges the old and new theories of journalism studies. On the one hand, it resonates with the well-established concept of journalistic routines (Reese, 2001; Tuchman, 1978), which has played a significant role in the study of legacy media. On the other hand, it touches upon emerging concepts, such as distributed content, associated with the newly developed digital media.

However, the researcher would caution against deeming the omnipresent journalism as discussed in this paper as the ultimate solution to all the challenges facing the newspaper industry. There is a possibility that after a while, newspapers will find yet another way of producing and distributing news, because the challenge remains for newspapers to hold onto an audience big and stable enough to sustain the business of newspaper publishing, if it is sustainable at all. The newspaper industry is now facing strong competition from the digital native news outlets, such as ProPublica, BuzzFeed and Vox. These outlets are keen to innovate journalistic storytelling and are good at it, which gives them an edge in competing for the millennials (Jurkwitz, 2014).

For now, it suffices to say that such omnipresent journalism is necessary for the newspaper industry to stick around. Or, the industry simply cannot afford not being omnipresent. “The more pressing concern for the industry is making sure people are continuing to read our work,” said one reporter (interview, July 7, 2014), and newspapers have to go after the readers wherever they are, which means to present news anytime, anywhere: in real time, online, in print, distributed across social media, through websites as well as phone apps. A more distributed media ecosystem, as what is happening now, is where the content will go to the people more than the people will go to the content, according to Jeff Jarvis, director of the Tow-Knight Center for Entrepreneurial Journalism (Mullin, 2015). Being omnipresent, it seems for the time being, increases the chance of being noticed. The page views of the mysa.com on the night of the Spurs triumph spiked during the hours between 9 p.m. and 11 p.m., totaling more than 260,000 page views in those three hours, more than doubling the page views at the same hours a week earlier and a year before that.

Future studies could perhaps explore a bigger question: how much journalistic value is there in such omnipresent journalism? Does the concept of live tweeting enhance the calling of the profession (Robinson, 2011)? Or, in other words, does omnipresence make better journalism? Future studies could also conduct similar research in other newsrooms and examine to what extend such three-round news presentation is a pattern across the newspaper industry, or other legacy news organizations.

## References

Atkinson, P. & Coffey, A. (2003). Revisiting the relationship between participant observation and interviewing. In J. A. Holstein, & J. F. Gubrium (Eds.), *Inside interviewing: New lenses, new concerns* (pp. 415-428). Thousand Oaks, CA: Sage Publications.

Barthel, M. (2015). *Newspaper: Fact sheet*. Retrieved December 19, 2015, from http://www.journalism.org/2015/04/29/newspapers-fact-sheet/

Berkowitz, D. (1989, August). *Notes from the newsroom: Reflecting on a naturalistic case study*. Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication, Washington, D.C.

Brock, G. (2013). *Out of print: Newspapers, journalism and the business of news in the digital age*. London, UK: Kogan Page.

Cottle, S. (2007). Ethnography and news production: News developments in the field. *Sociology Compass, 1*(1), 1-16.

DeWalt, K. M. & DeWalt, B. R. (2001). *Participant observation: A guide for fieldworkers*. Walnut Creek, CA: AltaMira Press.

Heckman, M. (2013). *Chronicle's new pay site spurs competitors*. Retrieved December 21, 2015, from http://www.netnewscheck.com/article/23945/chronicles-new-pay-site-spurs-competitors

Fishman, M. (1980). *Manufacturing the news*. Austin, TX: University of Texas Press.

Gans, H. J. (1979). *Deciding what's news: A study of CBS Evening News, NBC Nightly News, Newsweek, and Time*. New York, NY: Pantheon Books.

Gitlin, T. (2003). *The whole world is watching*. Berkeley, CA: University of California Press.

Heim, K. (2015). Live tweeting a presidential primary debate: Comparing the content of Twitter posts and news coverage, *#ISOJ 5*(1), 208-228.

Jenner, M. (2012, April). *Diving into mobile: The mobile phone and tablet products of dailies and weeklies*. Paper presented at the American Society of News Editors Convention, Washington, D.C.

Jurkowitz, M. (2014). *The growth in digital reporting: What it means for journalism and news consumers*. Retrieved December 19, 2015, from http://www.journalism.org/2014/03/26/the-growth-in-digital-reporting/

Jurkowitz, M. (2014). *The losses in legacy*. Retrieved December 19, 2015, from http://www.journalism.org/2014/03/26/the-losses-in-legacy/

Kamarck, E., & Gabriele, A. (2015). *The news today: 7 trends in old and new media*. Retrieved December 19, 2015, from http://www.brookings.edu/research/papers/2015/11/10-news-today-7-trends-old-new-media-kamarck-gabriele

Mabweazara, H. M. (2013). Ethnography as negotiated lived experience: Researching the fluid and multi-sited uses of digital technologies in journalism practice. *Westminster Papers 9*(3), 99-120.

Marchionnia, D. (2013). Conversational journalism in practice. *Digital Journalism, 1*(2), 252-269.

Mitchell, A. (2015). *State of the news media 2015*. Retrieved December 31, 2015, from http://www.journalism.org/2015/04/29/state-of-the-news-media-2015/

Mullin, B. (2015). Apple's news, which launches today, is the latest in a trend toward distributed content. *Poynter*. Retrieved December 18, 2015, from http://www.poynter.org/2015/apples-news-which-launches-today-is-the-latest-in-a-trend-toward-distributed-content/373305/

National Newspaper Association. (2015). *Newspaper circulation volume*. Retrieved December 19, 2015, from http://www.naa.org/Trends-and-Numbers/Circulation-Volume/Newspaper-Circulation-Volume.aspx

Paterson, C. (2008). Why ethnography. In C. Paterson, & D. Domingo (Eds.), *Making online news: The ethnography of new media production* (pp. 1-11). New York, NY: Peter Lang.

Purcell, K., Rainie, L., Mitchell, A., Rosenstiel, T., & Olmstead, K. (2010). *Understanding the participatory news consumer*. Retrieved from http://www.pewinternet.org/Reports/2010/Online-News.aspx?r=1

Reese, S. D. (2001). Understanding the global journalist: A hierarchy-of-influences approach. *Journalism Studies, 2*(2), 173-187.

Robinson, S. (2007). Someone's gotta be in control here. *Journalism Practice, 1*(3), 305-321.

Robinson, S. (2009a). A chronicle of chaos: Tracking the news story of Hurricane Katrina from the *Times-Picayune* to its website. *Journalism: Theory, Practice and Criticism, 10*(4), 431-450.

Robinson, S. (2009b). The cyber-newsroom: A case study the journalistic paradigm in a news journey from a newspaper to cyberspace. *Mass Communication and Society, 12*, 403-422.

Robinson, S. (2011). "Journalism as process": The organizational implications of participatory online news. *Journalism & Communication Monographs, 13*(3), 137-210.

Thurman, N., & Walters, A. (2013). Live blogging: Digital journalism's pivotal platform? *Digital Journalism, 1*(1), 82-101.

Tuchman, G. (1978). *Making news*. New York, NY: Free Press.

Westlund, O. (2012). Producer-centric versus participation-centric: On the shaping of mobile media. *Northern Lights, 10*, 107-121.

Westlund, O. (2013). Mobile news. *Digital Journalism, 1*(1), 6-26.

Westlund, O., & FÄRDIGH, M. A. (2011). Displacing and complementing effects of news sites on newspapers 1998-2009. *The International Journal on Media Management, 13*, 177-191.

***Zhaoxi (Josie) Liu*** *is an assistant professor at Trinity University in San Antonio. She used to be a journalist and focuses her research on cultural inquiries of journalism practice and inter-cultural communication.*