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JPIC Editorial Board

Special thanks to our reviewers

To our reviewers for the December 2019 and May 2020 issues, your expertise and hard work have made our journal's success possible. We would like to take this opportunity to extend a special thanks to the reviewers who contributed to these two issues:

Melissa Adams, Giselle Auger, Jasper Fessmann, Corey Hickerson, Myleea Hill, Amanda Kennedy, Christopher McCollough, Katie Place, Donnalyn Pompper, Natalie Tindall, Marina Vujnovic, Chang Wan Woo

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Editor's Essay

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Alva Myrdal (1902-1986) was a Swedish feminist, mother, wife, and social scientist whose contributions to sociology were examined by Hedvig Ekerwald. By reading Ekerwald's (2000) work, I learned much about Myrdal. Myrdal served as director of the United Nations Department of Social Affairs, director of the UNESCO Department of Social Sciences in Paris, and in various posts and positions in the Swedish government including being a member of the Swedish Parliament, an ambassador to India, as well as one of first female ministers in Sweden despite her career being delayed and at times overshadowed due to gender roles and expectations. Myrdal also was awarded the Albert Einstein Peace Prize (1980) and Nobel Peace Prize (1982).

Although she was not without controversy, I believe Myrdal is salient to the work of public interest communications (PIC) because she used her unique perspective and experiences as a researcher, mother, and wife to enact change. Through her research she took what was very private, such as the division of home labor, work-life balance, and child care and made the topics public though debate, dialogue, political agendas, and policy. Therefore, I concur with Ekerwald (2000) that Myrdal's work is an "inspiration for finding solutions for societal problems" (p. 351) because Myrdal used clear arguments, careful analysis, broad experience, a range of theoretical perspectives, and scientific thinking to command people to consider different points of views to initiate change. In this issue of the *Journal of Public Interest Communications*, the authors' work seems to center around the question, "What happens when we make the private public?" By analyzing Myrdal's research style, we can further probe and investigate this important question.

Myrdal reformulated problems to allow for examining them from new and different perspectives (Ekerwald, 2000). One way to give light to new perspectives is through transparency. Austin et al.'s article allows readers to view the types of transparency social media

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afford us to view advocacy, emotion, risk, and political discussions at all levels of intimacy from the personal to the societal. Similarly, when boundaries are broken, situations are seen in new ways. Rupprecht's piece delves into how new experiences can allow students to find a new mindfulness. When distraction and familiarity are stripped away and students are active in shared reflection, Rupprecht states that students were more conscious of purpose and connection. Reformulating issues also can help us to define what is no longer acceptable. These beliefs can begin as personal but then can be shared publicly in communities and greater society. Although Boatwright and White remind us that the collection of big data is not inherently bad, they also speak to the need for better protection of social media user data and more transparency in how we use data. In order to move the conversation on gun violence, Austin et al. urge advocates and health and crisis communicators to design better messages by understanding the types of messages and platforms used by different social media users. These authors all demonstrate how information that once might have been privately shared now has been pushed into the public realm.

Myrdal also recognized that there are dichotomies inherent in questions (Ekerwald, 2000). For example, does car-free mobility expose youth to other dangers? What implications does global engagement allow for understanding, but also exploitation? Why is corporate surveillance acceptable while government surveillance is not? Looking at these polarities may also help readers to consider changing expectations as we move from the private to the public. Through the Backpack Journalism program, students share their personal experiences via documentaries, which help those students and those who view the films to develop empathy, connection, and understanding. These outcomes are most likely shaped by the changed experiences of the documentarians. Likewise, thinking about these dichotomies, people are forced to take ownership of their actions or inaction.

By exposing vulnerabilities, we can build strength when we move private opinions into the public realm. Austin et al. warn how social media users tend to engage in echo chambers while avoiding engagement with those with divergent views and implore public health and advocacy organizations to find new ways of communicating with social media users based on this knowledge. Boatwright and White contend that although people need to be more aware of the privacy they give up when using free services, it is also time to hold social media companies accountable for communicating clearly about data collection, use, and storage. By finding ways to improve youth experiences with public transportation, Shafer and Macary argue that if we want to see less dependence on cars as a means of transportation, communicators need to invest in strategies to encourage youth to see these advantages so the youth of today become the active citizens and voters who support such initiatives. When the private concerns of individuals and organizations are brought to the public agenda each concept grows strength because people join voices to find solutions.

Finally, Myrdal saw the importance of bringing the literature of several fields together in order to form a more complete picture (Ekerwald, 2000). She comprehended the need to break down the silos that exist around knowledge through reinterpreting research and expanding areas

of new exploration. In my opinion, PIC sits squarely in this realm. We can see how Boatwright and White brought research from legal, ethical, and policy perspectives to PIC. Austin et al. bridge PIC with public health and crisis communication. Rupprecht demonstrates how PIC can join with journalism, theology, and education, and Shafer and Macary show PIC's connections to transportation and psychology. This interdisciplinary approach takes knowledge that might have been viewed as exclusive to one field of study and makes it open and available to scholars in other disciplines, yet again making the private public.

To answer the question, "What happens when we make the private public?" I think we must be cautious and consider what is the cost of losing our privacy. We must have enough information to make informed and reasoned decisions about what we do and what we do not want in the public realm. We also must have the choice to release information and data when and how we see fit. When, and if, we do decide it is permissible to share personal information and data, we should remember that Myrdal implores us to find meaning in what is relevant and relatable. By doing so we allow the shift from private to public to enact change for the public good rather than for private gain.

Ekerwald, H. (2000). Alva Myrdal: Making the private public. *Acta Sociologica*, *43*(4), 343-352. https://doi.org/10.1177/000169930004300407

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#GunViolence on Instagram and Twitter: Examining Social Media Advocacy in the Wake of the Parkland School Shooting

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Abstract

The February 2018 Parkland school shooting quickly initiated passionate social media response on Twitter and Instagram. Research on the effect of large-scale mass shootings, particularly on social media dialogue, is lacking, at a time when emerging research suggests potential for both driving mass contagion and enhancing risk perceptions for public interest communications. This study examines response to the shooting through a content analysis of Instagram and Twitter. Findings revealed that gun violence advocacy and risk perception variables were present more frequently on Instagram, while Social Ecological Model policy-level factors were observed more frequently on Twitter. Advocacy drove engagement on both platforms; however, anger was associated with higher Instagram engagement. Details of gun violence, associated with potential for mass contagion, drove engagement on both platforms.

Introduction

On February 14, 2018, an expelled student entered Marjorie Stoneman Douglas High School in Parkland, FL. Armed with an AR-15 semi-automatic rifle, he started firing at students and teachers, ultimately killing 14 students and three staff members. During the attack, a 14-year-old student named Aidan Minoff live-tweeted his experience as he hid under a desk (Griggs, 2018). In the hours following the shooting, dozens of surviving Parkland students took to social media to express their grief and anger, directing their attention to politicians and pundits who, in their opinion, failed to take appropriate action against the threat of gun violence (Meyer, 2018). They

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quickly started lobbying the Florida State Legislature and the U.S. Congress to do more than offer thoughts and prayers and instead enact stronger gun control measures (Turkewitz et al., 2018; Witt, 2018a). A mere 38 days after the Parkland shooting, a group of Parkland students co-organized the March for our Lives in Washington, D.C. (the March was planned four days after the shooting and was ultimately joined by 800+ sister marches around the globe), which brought an estimated 800,000 protestors to Washington and exclusively featured speakers who were 18 and under (Sanchez, 2018). The survivors' experiences both during and in the aftermath of this attack were inextricably linked to social media. As this shooting once again reignited the national debate over gun violence, an urgent public health problem that results in more than 33,000 deaths annually in the United States (Xu et al., 2015), it is crucial to examine the role that social media play in influencing and shaping our understanding of gun violence issues.

Although mass shootings account for only a small proportion of overall firearm injuries and deaths, they represent an important area of research for several reasons. First, recent data indicate that both the frequency and fatality of mass shootings are on the rise nationwide (Blair & Schweit, 2014; Cohen et al., 2014). Additionally, these events garner significant national media attention, providing a key window into the ongoing debate over gun violence, as well as the types and sources of information that are driving it. Finally, recent research suggests that mass killings involving firearms often may be galvanized by similar events in the immediate past, with national media coverage planting the seeds for other at-risk individuals to commit acts of violence (Gould, 2001; Towers et al., 2015).

Social media have been shown to alter collective behavior in response to disaster and crises and may loosen the relationships among entities involved in the crisis, while facilitating the potential for other audiences to become part of the conversation (Eismann et al., 2016). Research on the effect of large-scale mass shootings, particularly as to the dialogue and conversation that take place in the social media sphere, is lacking (Mazer et al., 2015). Additionally, although social media platforms, such as Twitter, have proven to be major sources of information during and after school shootings, other platforms, such as Instagram, have not been studied (Mazer et al., 2015). This study aims to fill that gap by exploring the social media conversation on Instagram and Twitter surrounding the Parkland school shooting through a content analysis of the themes and trends in posts and comments to better inform public interest communications that might seek to address this topic in the public sphere. Specifically explored within this content analysis are factors related to advocacy, mass contagion, Risk Perception Model constructs, levels/actors according to the Social Ecological Model (SEM), and engagement.

Literature review

Gun violence as a public interest communications public and health issue

The issue of school shootings and gun violence can be informed by public interest communications, which has been defined as "the development and implementation of science based, planned strategic communication campaigns with the main goal of achieving significant and sustained positive behavioral change on a public interest issue that transcends the particular interests of any single organization" (Fessmann, 2016, p. 16). Public interest communications is different from public relations in that it focuses on public interest first with a goal of social good and aims for behavior change (Fessmann, 2017).

Defining a public from a public interest communications perspective has been problematic (Austin et al., 2019), as is determining what might fall within universal public interest (Johnson & Pieczka, 2019). And, although the issue of gun control reform has become polarized within the United States, the problem of gun violence, including school shootings, has been defined as an urgent public health epidemic by many studies (Reese, 2017).

Deaths due to gun violence were not considered a public health issue until the late 20th century; this problem was previously under the purview of criminologists (Wintemute, 2015). The high level of firearm ownership in the United States has been directly associated with an increased risk of firearm-related mortality (Kalesan et al., 2016). A 1992 *New England Journal of Medicine* study concluded that ready availability of firearms increased the risk of suicide in the home (Kellermann et al., 1992), and a more recent study found that states with higher numbers of firearm laws were associated with lower rates of firearm fatalities, both overall and specifically for suicides and homicides (Fleegler et al., 2013). Recent numbers show shootings are the third leading cause of death for those under 18 in the United States (Fowler et al., 2017).

As there is no national gun ownership database, it is impossible to know the exact number of individuals who own guns in the United States; however, research estimates that there are approximately 310 million non-military firearms in the United States, 3 million of which are handguns (Bureau of Alcohol Tobacco Firearms and Explosives, 2016). That figure is significantly higher than for other developed nations (SAS, 2007). The main stated motive for firearm ownership in the United States is personal safety (Wallace, 2015). In addition, owning guns for personal safety reasons is associated with involvement in crime or fearing for one's self or family (Cao et al., 1997; Wallace, 2015). However, studies have shown that in the United States, when a gun or guns are present in homes, both men and women are at significantly higher risk of firearm homicide (Hepburn & Hemenway, 2004). In addition, when gun ownership levels are higher, a larger number of people die from suicide (Miller et al., 2002).

Gun violence conversations on social media

Although the national conversation over mass shootings and gun violence in traditional mass media has been studied extensively, little is known about these conversations as they take place on social media in the sphere of public dialogue. Given the significant media coverage surrounding these events and the potential for contagion effects (i.e., when coverage of a shooting sparks more shootings) via mass media exposure (Gould et al., 2003), understanding how this debate plays out over multiple social media platforms could have important implications for both public health and journalistic practice, particularly since far more social media messages are composed and shared by the public as compared to messages from mass media outlets.

Mazer et al. (2015), with one of the first studies of its kind, examined social media use during active shooter incidents, examining small-scale shooter events (opposed to mass shooter events) through conversation on Facebook, Twitter, blogs, and websites. In these very small-scale events, conversation was tightly clustered and easy to analyze through a mix of automated and manual analysis. Findings revealed a much greater volume of information on Twitter and Facebook than on mainstream news, with Twitter having the most volume. Social media posts were more information-focused than affect-focused, with Twitter being especially information-focused for both shootings. Misinformation and rumors, as well as calls to action on gun violence, were also part of the conversation (Mazer et al., 2015). A preliminary analysis of Twitter conversation after the Sandy Hook Elementary School shooting also revealed that calls to action and calls for gun reform were a major part of the conversation (Shultz et al., 2013), suggesting that advocacy is an important construct to examine in the aftermath of a mass shooting.

Additionally, although some studies have used social media conversation about incidents of gun violence as cases to develop big data machine-learning techniques (Li et al., 2018; Wang et al., 2017), few have examined the context of the conversations. Two of the few studies available are both content analyses of tweets by the National Rifle Association (NRA) and the Brady Campaign to Prevent Gun Violence (Auger, 2013; Merry, 2016). Results indicated that both groups mostly interacted with their supporters and avoided engagement with those who disagreed with them (Merry, 2016). However, the NRA was more likely to evoke politics and legislation in its tweets (Auger, 2013). To date, no studies have focused on gun violence, gun rights, and gun control related posts on Instagram.

Research also has been conducted about the presence of school shooting fan communities online (Oksanen et al., 2014; Raitanen & Oksanen, 2018). These studies reveal that several groups, including fan girls, researchers, Columbine fans, and copycats find communities online. They also indicate that social media have the potential to function as powerful arenas for idea sharing and violence justification (Oksanen et al., 2014; Raitanen & Oksanen, 2018).

Specifically, this paper evaluates this discussion as it is carried out on social media, with an emphasis on the potential for mass shooting contagion. Both Instagram and Twitter are among

the most popular social media platforms (Pew Research Center, 2019), one exclusively visual-based and one more text-based and can provide two potentially different social media conversations. Instagram still caters to a slightly younger audience with 67% of 18- to 29-year olds having an Instagram account, compared to 38% in that age range having a Twitter account (Pew, 2019). Instagram also appears to have a slightly more diverse audience than Twitter with higher percentages of racial minority users, although both platforms report a smaller percentage among White adults, than among racial minority groups (for example, 51% of Hispanic U.S. adults report using Instagram versus 33% of White U.S. adults (Pew, 2019).

Scholars have called for the need to investigate the conversation around large-scale school shootings on social media, as well as social media platforms that have not been investigated yet in school shootings, including Instagram (Mazer et al., 2015). In December of 2019, Instagram announced a call for more responsibility (and enforcement) on its platform regarding messages about public safety issues, such as gun violence (Thorbecke, 2019), and no studies that we could find have focused on Instagram in the context of school shootings. Although some studies have limitedly examined Twitter in the context of past shootings and the gun control debate (Benton et al., 2016; Budenz et al., 2019), more research is needed specifically in the context of unique events such as the Parkland school shooting, due to teen involvement and unique activist voices. Therefore, the first research questions for this study are:

RQ1a: What did Twitter messages look like in the wake of the Parkland school shooting?

RQ1b: What did Instagram messages look like in the wake of the Parkland school shooting?

RQ1c: How did users engage with Parkland school shooting related tweets?

RQ1d: How did users engage with Parkland school shooting related Instagram posts?

Risk Perception Model

Risk communication is an approach for communicating effectively in high-concern situations (Covello et al., 2001). Crises, such as mass shootings, are often accompanied by strong negative emotions, such as fear. These then can result in barriers to effective and necessary communication (Covello et al., 2001). Fear may result from crisis situations where there is low perceived control and predictability (Jin, 2010). Anger and distrust may be exacerbated in crisis situations where individuals perceive a high organizational responsibility for the crisis (Coombs & Holladay, 2005). For example, in the case of gun control, anger might stem from the perception that organizations are responsible for taking action and failing to do their part.

The Risk Perception Model helps explain how risk perceptions are formed. For example, risks that evoke fear are perceived as greater than risks that do not; risks associated with untrustworthy entities are perceived as greater than risks associated with trusted ones; and risks

that are portrayed as having irreversible, devastating consequences are perceived as greater than risks that are perceived to be less catastrophic (Covello et al., 2001). The public's ability to process information can be significantly impaired when serious risks are perceived to be present (Cairns et al., 2013), especially if tools to deal with the threat adequately, such as strong self-efficacy, are not available (Witte, 1992). It is therefore important to determine the presence of risk perception variables in social media gun violence conversations. Thus, the second research question is:

> *RQ2***:** How were risk perception constructs represented in Parkland shooting messages on Twitter and Instagram, and how do social media users engage with these messages?

Suicide versus mass shooting contagion

After an active shooting event, a phenomenon known as mass contagion has been observed by a growing body of research. Mass contagion described a phenomenon where more shootings tend to take place following the shooting event (Kissner, 2016). A study by Towers et al. (2015) found evidence that when a mass shooting (involving four or more fatalities) takes place, similar events seem to be more likely to occur in the community in the following 13 days. Many studies suggest that these copycat incidents are driven by a mass shooter's desire for fame or attention (Lankford, 2016; Tufekci, 2015). Recent research (Dahmen, 2018) also has revealed that newspaper visual coverage following three major school shootings "gave more attention to perpetrators than to individual deceased victims by a ratio of 16 to 1" (p. 163), indicating that newspaper and media coverage of these mass shootings may be furthering the potential for this mass contagion effect.

The World Health Organization (WHO) in 2008 developed guidelines for reporting suicides (World Health Organization, 2008). These recommendations were developed as a guide for how the media should report on suicides to minimize the risk of suicide contagion, or the potential for media reports of suicide to lead to imitative suicidal behaviors. Some of the recommendations include exercising caution in using photographs or video footage, showing due consideration for people bereaved by suicide, providing information for those in need to be able to get help, avoiding providing detailed information about the site of a completed or attempted suicide, avoiding prominent placement and undue repetition of stories about suicide, and avoiding explicit description of the method used in a completed or attempted suicide (World Health Organization, 2008). While the WHO has not yet released an advisory similar to its suicide recommendations for reporting on mass shootings, it is possible that using these variables for social media analysis will provide another vantage point for analyzing mass shooting and gun violence posts on social media. Perrin (2016) issued a call to psychologists and behavioral/social scientists to educate media professionals about the potential for the imitation of mass and school shootings and ways to prevent this imitation. In turn, we believe this mass shooting contagion

concept should be studied in the realm of social and digital media as well, and therefore the third research question for this study is:

> *RQ3***:** How are WHO media contagion prevention principles represented in Parkland shooting messages on Twitter and Instagram, and how do social media users engage with these messages?

Social Ecological Model

Many health behavior and psychological theoretical frameworks are built on the foundation of the individual and their perceptions, beliefs, and intentions. However, the CDC recommends using the four-level SEM, particularly when dealing with violence prevention (Centers for Disease Control and Prevention, 2020). Socioecological models of health (Green et al., 1996) factor in the individual as well as the social environment and the structural environment. The SEM takes into consideration the complex interactions among individual, interpersonal, community/organization, and society/policy factors (Bronfenbrenner, 1977; Perkins & Taylor, 1996) and represents the range of factors that plays a role in facilitating or preventing gun violence as well as different points and opportunities for intervention in the gun violence issue (Rubens & Shehadeh, 2014).

In the wake of the Sandy Hook Elementary School mass shooting, scholars identified different tiers of individuals affected and also groups involved in the national conversation as part of a population exposure model (Shultz et al., 2013). Beyond the direct victims, these tiers included survivors (children and staff) and their family members, extended family and emergency responders, care providers and media, the community, and then the nation at large. Considering the limited availability of gun violence research relating to social media, and the importance of using a multilevel approach in dealing with this issue, the fourth research question for this study is:

> *RQ4***:** How are SEM constructs represented in Parkland shooting-focused messages on Twitter and Instagram, and how do social media users engage with these messages?

Method

In February 2018, in the days following the shooting, all tweets and Instagram posts tagged with #parkland, #parklandshooting, or #neveragain were collected using Netlytic.[1] Researchers pulled a random sample of 500 posts from each platform, resulting in 1,000 social media posts and

[1] www.netlytic.org

conducted a quantitative content analysis. Variables coded include indicators of risk perception theory, engagement characteristics, framing, and discussions of gun violence.

Coding protocols were developed, tested, and implemented for the coding process using posts from the whole dataset but not included in the random sample. During the development process, researchers also initially conducted qualitative analyses to determine emergent themes from the data as well as newspaper reports and previous studies. These emergent themes were developed into coding categories for quantitative content analysis.

Posts were coded for engagement variables (likes, comments, and views for Instagram; likes, retweets, and replies for Twitter), website connection, advocacy strategies, risk perception factors, visual type, SEM constructs, and gun violence variables. These variables are discussed in more detail below.

Content analysis categories

Gun violence related variables

Based on an initial review of the data, a list of general variables focused on gun violence in this shooting was developed: Pro/anti-gun control, pro/anti-gun rights; mention of: NRA, Second Amendment, political references, conspiracy theories regarding gun violence and mass shootings, well-regulated militia, President Trump, gun safety practices, background checks, assault weapons sentiment, gun free zones, increased security, and arming teachers, visual signs of patriotism, and gun visuals. Coders noted the presence or absence of these topics, as well as the users' stance on them (pro or anti), which can be found in the Appendix in Table 1.

Risk Perception Model variables

Based on Covello et al. (2001), six risk perception variables were analyzed: fear, danger, the involuntary nature of being affected by gun violence, mentioning an identifiable victim, association with untrustworthy entities, and dreaded, irreversible outcomes. See Figures 1 and 2 for examples of posts that were coded matching this category. Coders noted the presence or absence of these variables, which can be found in the Appendix in Table 2.

WHO media contagion variables

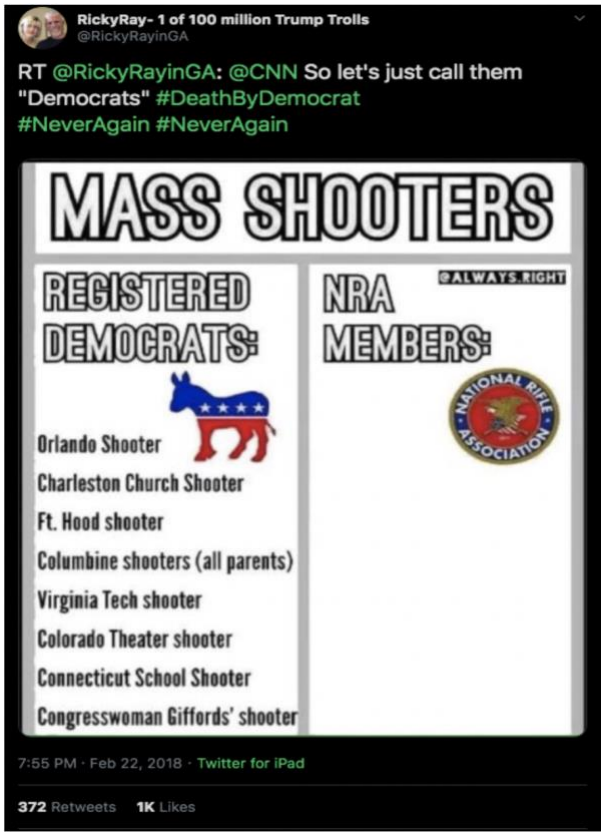
Variables for media contagion were adapted from WHO's suicide contagion identifiers. These included: gun violence education, providing detailed descriptions of gun violence, using a photo of the alleged perpetrator, and using a photo of a specific model of firearm (World Health Organization, 2008). See Figure 3 for an example of a post that was coded matching this category. Variables were coded for presence or absence and can be found in the Appendix in Table 3.

Social ecological model

Eight variables were coded based on the SEM: Individual, Interpersonal, Community/Organizational, and Societal/Policy factors (CDC, 2020). Coders noted when the content of the social media post suggested that any actor(s) from these different social levels may have the potential to stop or facilitate gun violence. See Figures 1 and 3 for examples of posts that were coded for SEM. Full SEM variables can be found in the Appendix in Table 4.

Figure 1

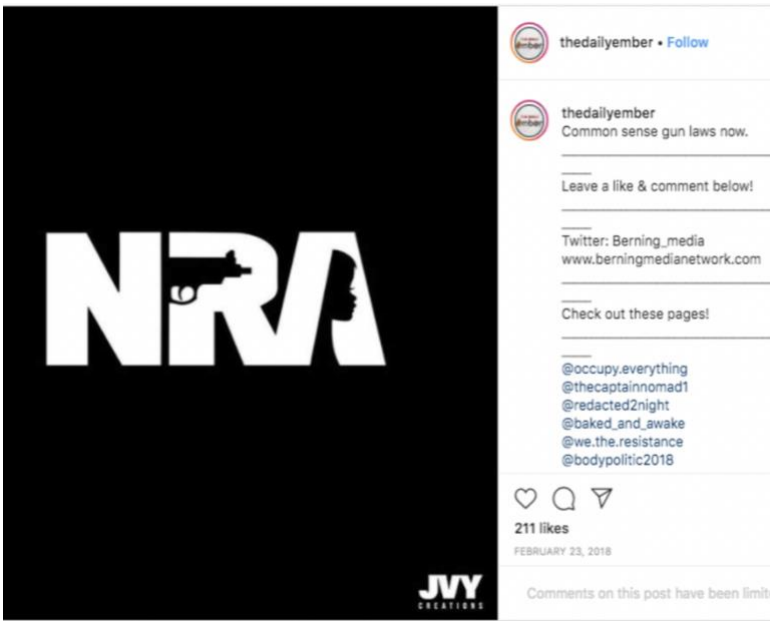
So Let's Just Call Them "Democrats"



Note. This tweet exemplifies the Risk Perception Model (framing Democrats as untrustworthy) and the SEM (framing political party as a factor that facilitates gun violence).

Figure 2

Common Sense Gun Laws Now



Note. This Instagram post demonstrates risk perception by associating the NRA with violence against children.

Advocacy variables

Coders noted when users were seeking to influence their audience into taking different forms of action. They also identified whether users were addressing a specific audience. The full list of these variables can be found in the Appendix in Table 5.

Engagement variables

Finally, post engagement was analyzed, defined for the purposes of this study as user interactions with the Twitter and Instagram posts. These engagement metrics included likes, retweets, and replies for Twitter and likes, comments, and video views for Instagram. Although these metrics cannot fully capture users' holistic responses to the social media posts, they function as a way in which platforms (and researchers) may quantify individuals' reactions. Using these metrics as a proxy for engagement is common practice in both research and industry (Barger et al., 2016; Baym, 2013; Napoli, 2011).

Figure 3

Times Have Changed

Note. This Instagram post exemplifies WHO media contagion variables by sharing details of the guns used and attempting to educate the public. This is also an example of SEM (arguing that policy affects gun violence).

Intercoder reliability

Two coders were trained to establish intercoder reliability. Both coders coded 10% of the posts (n = 100; n = 50 for Instagram and n = 50 for Twitter). Upon achieving intercoder reliability among the remaining posts, the first coder coded the remainder of the Instagram posts and 250 of the remaining tweets, and the second coder coded the remaining 200 tweets. After pretesting and subsequent changes to the coding protocol, the intercoder reliability test with the ReCal statistical program showed *Scott's Pi* (Scott, 1955) was on average .80. The individual coefficients were all considered to be reliable, with the lowest coefficient at .74.

Statistical analyses

Descriptive analyses were carried out for all variables. In addition, Mann-Whitney U tests were used to check for differences in both Twitter and Instagram engagement between posts both with and without a range of dichotomous variables. Distributions of the engagement frequencies were evaluated and found similar based on visual inspection of a box plot for all variables involved. Finally, Chi-Square tests were used to determine differences in frequency of appearance of variables between Twitter and Instagram.

Results

RQ1a-d: Themes of posts and public engagement

The *first research question* asked how Twitter and Instagram posts discussed the shooting at Stoneman Douglas High School and how users engaged with these posts. Chi-Square tests showed that Twitter included statistically significantly more posts than Instagram about the NRA, political references, signs of patriotism such as the American flag, thankfulness, and the "good guy with a gun" argument. Instagram posts, on the other hand, had significantly more mentions of conspiracy theories from a gun rights perspective, religion (often "thoughts and prayers"), and emotions such as anger/frustration and sadness (see Table 1 for complete general descriptives and Table 6 for Chi-Square results). Advocacy was significantly more frequently present on Instagram with mentions of marches, rallies, and walkouts, while boycotting businesses that work with the NRA was observed more frequently on Twitter (see Table 5).

Since social media engagement metrics in this study were not normally distributed, the median is a more appropriate measure of central tendency than the mean (Reinard, 2006). On Instagram, the median number of likes was 155.00, the median number of comments was 12.50, and the median number of video views was .00. On Twitter, the median number of likes was 59.00, the median number of retweets was 37.00, and the median number of replies was 2.00.

Mann-Whitney U tests showed that, in general, the presence of gun-related variables increased engagement on both Instagram and Twitter in this study. On both platforms, mentioning advocacy also increased engagement [likes for Instagram; retweets (*Mdn* = 156.00 present, *Mdn* = 25.50 absent, $p = .011$), likes (*Mdn* = 368.50 present, *Mdn* = 39.00 absent, $p = .008$), and replies (*Mdn* = 14.00 present, *Mdn* = 1.00 absent, $p = .006$) for Twitter). However, most of the specific variables differed by platform: On Instagram, mentioning the NRA (Comments: *Mdn* = 30.50 present, *Mdn* =10.50 absent, $p = .011$), gun rights originated conspiracy theories (Comments: *Mdn* = 30.50 present, *Mdn* = 10.00 absent, $p = .007$), and guns as the cause of mass shootings (likes: *Mdn* = 2831.00 present, *Mdn* = 136.00 absent, $p = .003$; comments: *Mdn* = 403.00 present, *Mdn* = 11.00 absent, $p < .001$) produced higher engagement, while on Twitter, references to politics did for all three engagement variables: retweets (*Mdn* = 124.50 present, *Mdn* = 17.00, absent, $p = .001$), likes (*Mdn* = 278.00 present, *Mdn* = 30.00 absent, $p = .003$), and replies (*Mdn* = 7.50 present, *Mdn* = 1.00 absent, $p = .001$). On Instagram, mentioning anger or frustration yielded higher comment frequencies (*Mdn* = 21.00 present, *Mdn* = 8.00 absent, $p = .014$), but on Twitter, it produced significantly lower engagement in all three engagement metrics (retweets: *Mdn* = 13.00 present, *Mdn* = 56.00 absent, $p = .034$; likes: *Mdn* = 17.00 present, *Mdn* = 131.00 absent, $p = .007$; replies: *Mdn* = 1.00 present, *Mdn* = 4.00 absent, $p = .018$) (see Tables 7 and 8 in the Appendix for a complete list of significant results).

Finally, as it is a visual social media platform, every Instagram post in this sample included some form of a visual. On Twitter, 53.2% ($n = 266$) of the tweets included some type of visual.

Mann-Whitney U tests showed that on Instagram, a visual of a gun/firearm was associated with higher engagement in the form of likes (see Tables 7 and 8).

RQ2: Presence of Risk Perception Model constructs and engagement

Research question two asked how Twitter and Instagram users discussed the Parkland shooting in the light of the Risk Perception Model, and how social media users engaged with these posts. Risk perception variables were present on both platforms but were more frequently present on Instagram (see Table 2 for a complete list). Chi-Square tests showed that Instagram included statistically significantly more posts than Twitter about fear, danger, dreaded irreversible outcomes, involuntariness as related to gun violence, and identifiable victims, while Twitter included more posts mentioning untrustworthy individuals or entities related to gun violence (see Table 6 for complete results).

Mann-Whitney U tests showed that the presence of specific risk perception variables was likely to increase engagement on Instagram but decrease engagement on Twitter (see Tables 7 and 8 for complete significant results). On Instagram, mentioning the involuntary nature of being affected by gun violence (likes: *Mdn* = 2831.00 present, *Mdn* = 137.00 absent, $p < .001$; comments: *Mdn* = 403.00 present, *Mdn* = 11.00 absent, $p < .001$), mentioning an identifiable victim (likes: *Mdn* = 597.00 present, *Mdn* = 131.00 absent, $p = .005$; comments: *Mdn* = 35.00 present, *Mdn* = 10.00 absent, $p = .001$), and mentioning untrustworthy entities (comments: *Mdn* = 27.00 present, *Mdn* = 8.00 absent, $p = .003$) all yielded an increase in engagement. On Twitter, the presence of untrustworthy individuals/entities (*Mdn* = 17.00 present, *Mdn* = 51.00 absent, $p = .018$) as well as mentioning irreversible outcomes (*Mdn* = 28.00 present, *Mdn* = 95.00 absent, $p = .003$) was more likely to decrease engagement (see Tables 7 and 8 for complete significant results).

RQ3: Media contagion and engagement

Research question three asked how Twitter and Instagram users discussed gun violence and mass shootings in the light of media contagion, and how social media users engaged with these posts. Possible media contagion variables were less frequently present in the sample's posts than were risk perception variables (see Table 3).

Chi-Square tests showed that Instagram included statistically significantly more posts than Twitter when mentioning a specific type of firearm, details of the gun violence incident, and stating the name of the shooter. None of the media contagion variables was present significantly more frequently on Twitter than on Instagram (see Table 2 for complete results).

Mann-Whitney U tests showed that only gun violence details significantly increased engagement—and did so on both platforms, although on Instagram only comments were affected (*Mdn* = 39.00 present, *Mdn* = 11.00 absent, $p = .006$) while on Twitter this appeared in all three engagement metrics: retweets (*Mdn* = 521.00 present, *Mdn* = 29.00 absent, $p = .010$), likes (*Mdn*

= 672.40 present, *Mdn* = 49.00 absent, *p* = .028), and replies (*Mdn* = 60.50 present, *Mdn* = 1.00 absent, *p* = .005) (see Tables 7 and 8).

RQ4: Social Ecological Model and public engagement

Research question four asked how Twitter and Instagram users discussed the Parkland shooting in the light of the SEM, and how social media users engaged with these posts. All SEM constructs—individual influence on gun violence, interpersonal influence on gun violence, community/organization influence on gun violence, and policy/society influence on gun violence—were present on both platforms of this sample (see Table 4 for a complete list).

Chi-Square tests showed that Instagram included statistically significantly more posts than Twitter on mentioning community/organization, individual, and interpersonal influence on stopping gun violence, and Twitter included statistically significantly more posts than Instagram on societal/policy responsibility for both facilitating as well as stopping gun violence (see Table 2 for complete results).

Mann-Whitney U tests showed that on Twitter, the mention of societal/policy influence and the mention of community/organization on stopping gun violence resulted in higher engagement for all three metrics—retweets (*Mdn* = 307.00 present, *Mdn* = 15.00 absent, *p* <.001), likes (*Mdn* = 719.00 present, *Mdn* = 28.00 absent, *p* <.001), and replies (*Mdn* = 23.00 present, *Mdn* = 1.00 absent, *p* <.001). On Instagram, mentioning community/organization influence on facilitating gun violence was associated with a higher median level of comments only (*Mdn* = 36.00 present, *Mdn* = 10.00 absent, *p* = .021) (see Tables 7 and 8).

Discussion

This study analyzed gun-related posts on Instagram and Twitter after the mass shooting at Marjory Stoneman Douglas High School in Parkland, FL, February 14, 2018.

Advocacy and engagement

The first finding of interest is that advocacy, although present on both platforms, is more frequently present on Instagram. When considering specific advocacy strategies, participating in marches, rallies, or walkouts was more frequently present on Instagram, while boycotting businesses because of their ties with the NRA was mentioned more frequently on Twitter. Even though the Parkland student survivors have been primarily active on Twitter, Instagram's demographics skew toward younger users (Pew, 2019), which may explain part of this variance as youth have become involved in walkouts and other protests in response to the Parkland shooting (Witt, 2018b). Additionally, research on Instagram has shown that users who are more prone to high levels of social activity (e.g., traveling, attending events, etc.) are more active users

of Instagram and have more motivation for use of the platform (Sheldon & Bryant, 2016). Mentions of advocacy and activism also increased engagement with social media posts on both platforms, furthering the conversation about gun violence, as did mentions of gun violence related variables. Worth noting here is that engagement in and of itself is not positive or negative, but it does indicate a level of visibility provided by the users for specific messages.

Emotions on Twitter and Instagram

Messages on Instagram appear to be framed through a more emotional lens than those on Twitter. In addition, on Instagram, expressing anger appeared to drive higher engagement, while on Twitter the opposite dynamic was visible—anger and frustration led to lower engagement. These findings also mirror prior research from Mazer et al. (2015) that Twitter posts are more information focused (compared to affect), even more so than Facebook. While Mazer et al. did not explore Instagram as a platform, the authors found that overall social media were more information-focused than affect-focused in small-scale shootings. Our research suggests that this may not be the case for large-scale mass shootings, such as the Parkland shooting, and particularly for the Instagram platform where more youth are participating in the conversation.

Younger audiences on Instagram who displayed anger may also display more self-efficacy or, possibly youthful confidence, that their actions will make a difference. Models such as the Anger Activism Model (Turner, 2007; Turner et al., 2006) suggest that both anger and efficacy are needed to drive activism and behavior change. Individuals with greater perceived efficacy may be more likely to take actions requiring greater involvement, such as protests, sit-ins, walk-outs, etc. (Turner et al., 2006), while individuals with lower perceived efficacy may be less likely to attend to and process information when angry (Ilakkuvan et al., 2017).

Presence of risk perception variables on Twitter and Instagram

Risk perception variables were more frequently present on Instagram, which parallels the increased expressions of anger and frustrations displayed there and the engagement for these types of posts. This finding may be related to the Instagram posts' emphasis on conspiracy theories related to mass shootings as well as the presence of anger and sadness on this platform. Tweets more frequently included mentions of untrustworthy entities and individuals (e.g., liberals, gun control activists), while Instagram posts more frequently discussed fear, danger, irreversible outcomes, involuntariness as related to gun violence, as well as identifiable victims of gun violence. Although these perceptions of risk can elevate the awareness of the problem and the need for change (Covello et al., 2001), they also may limit the ability to process information (Cairns et al., 2013) and result in decreased engagement or action.

Instagram posts, however, that reflected risk perception variables elicited higher levels of engagement, while tweets that included these constructs were associated with lower user engagement. Perhaps, again, because Instagram is associated with a younger user base who may

have increased levels of confidence or efficacy, this efficacy is needed to adequately push through fear of threats in order to take action (Peters et al., 2013).

Further, these findings are not just indicative of different conversations that occur on specific social media platforms, but they also reflect the finding that social media users tend to engage with ideologically-congruent supporters and avoid engagement with ideologically-incompatible opponents (Merry, 2016). Public health and advocacy organizations should consider this as they address the issue of gun violence on these social media platforms.

Media contagion on Instagram and Twitter

When analyzing these social media posts about gun violence using the WHO's media contagion framework regarding suicide reporting, what stands out is that these constructs invariably were more frequently present on Instagram compared to Twitter, a concern considering Instagram's primary visual nature. Mentioning specific details of gun violence (one of the subjects the WHO discourages in media representations) significantly increased engagement on both platforms, while none of the variables encouraged by the WHO guidelines increased engagement on either platform.

Although prior analysis of visuals in newspapers and media has shown the potential for mass contagion through displaying images of gun violence and focusing disproportionately on the perpetrators of the shooting (Dahmen, 2018), this study shows that, on social media, this conversation drives engagement—something that other studies have not been able to examine in this way. Although media contagion variables were not present to a large extent on either Instagram or Twitter, the fact that they are present at all is cause for concern (Kissner, 2016), and public interest communications professionals should actively address the need for decreasing this presence in their communication on these platforms.

Social Ecological Model and gun violence posts

Instagram posts focused on more levels of the SEM. However, Twitter posts included more discussion of societal/policy factors related to both gun rights and gun control. The most interesting finding related to the presence of SEM variables in this study's social media posts was that the presence of societal-level and community-level framing related to stopping gun violence elicited higher engagement on Twitter, while this dynamic was not present on Instagram. On Instagram, community-level influence on facilitating gun violence (most often operationalized as NRA activities) produced higher engagement.

This carries an important implication for gun violence prevention public interest communications frameworks: Although framing of individual rights and interpersonal factors traditionally dominates public discourse, societal-level framing seems to be increasing into the public consciousness. Models such as the SEM (McLeroy et al., 1988; Sallis & Owen, 2004) stress the importance of multiple levels of impact, such as mass media, interpersonal

communication, and influence on policy from a public health perspective, but this theory also may inform a public interest communications perspective. Also, as Snyder et al. (2004) showed in their meta-analysis, campaigns that included some element of policy change were much more likely to influence behavior change in the intended populations. Advocacy and activist organizations that wish to drive change on this issue should consider communication and intervention at multiple levels for increasing effectiveness (Rubens & Shehadeh, 2014), although engagement with posts may vary by platform, as shown here. Although public interest communications seeks to change organizational structure (Fessman, 2017), public interest communications also might seek to work within and across existing organizational structures in a variety of contexts to facilitate change on social issues.

Platform distinctions

Overall, results indicate that users expressed their reactions to the Parkland shooting differently on Twitter than they did on Instagram. Whereas conversations on Twitter tended to focus on society-level political discussions, those on Instagram were more personal, emotional, and advocacy driven. The presence of risk perception variables decreased engagement on Twitter but increased it on Instagram.

As discussed above, this may be due in part to the demographics of each platform—younger Instagram users may react differently to a school shooting as they are more directly impacted by the issue and may have higher self-efficacy regarding social change. However, users also may prefer emotional communication on Instagram due to their personal relationship with the platform itself. Research indicates that individuals tailor their self-presentation to the audience that they imagine will receive it (Marwick & boyd, 2011; van Dijck, 2013). It may be that users anticipate that their Instagram posts are more likely to be viewed by close connections, rather than a broader, more public audience that they may reach through Twitter.

Limitations and suggestions for future research

This study examined posts about gun violence after the Parkland shooting, but this focus represents a snapshot in time after a strong youth movement focused on gun control emerged. Future research is encouraged to examine how these conversations might change in relation to other mass shootings (including those that did not involve youth or schools), as well as how conversation might vary on differing types of platforms with differing demographics (e.g., Facebook, Snapchat, Pinterest, etc.).

As anger appeared to be a driver of engagement on Instagram, and the Instagram platform saw more discussion of advocacy and activist activities, future research also might examine how efficacy is portrayed in social media posts. As mentioned above, the Anger Activism Model (Turner, 2007) posits that anger and efficacy drive activism attitudes and behavior. Further

examining efficacy may lend additional insight into the trends observed here. Additionally, this study examined engagement through user likes, comments, sharing of posts, and video views. Expanded metrics to include impressions and views of posts also could provide a more complete examination of engagement.

Conclusion

The Parkland school shooting in February 2018 quickly initiated passionate social media reactions, particularly on Twitter and Instagram. However, the two platforms appeared to elicit different responses, with variations in tone, topics, and effects on engagement. Instagram posts were more focused on advocacy and activism and included more emotion and affectation. These mentions of advocacy increased engagement on all platforms; however, interestingly, inclusion of emotions (e.g., anger and fear) only drove engagement on Instagram. This may be due to core differences between the platforms, including users' demographics and their perceptions of their audiences.

Specific details of gun violence were more frequently present on Instagram, which is troubling as this is primarily a visual platform, and because this type of information is identified as a factor for media contagion—especially in visual form. As Instagram is popular among users who may still be young enough to be impacted by school shootings, it is important for them to understand the potential impact of the content that they are consuming as well as that which they post and share. As details of gun violence also drove more engagement with posts on both platforms, it is vital that we engage in careful examination of mass contagion on social media.

As mass shootings continue to occur with unfortunate consistency and dominate coverage on both news and social media, it is crucial for advocacy organizations, activists, and health and crisis communication specialists to prioritize these issues. They must first understand the nature of these conversations and then endeavor to design and test messages that will be most effective in the field of gun violence communication. This research reveals that users engage differently with the issue of gun violence on different platforms, suggesting that advocates and crisis communicators would benefit from tailoring their messages to individual platforms for maximum impact.

A public interest communications framework can help to better inform communication to prevent gun violence and school shootings. As Fessmann (2017) notes, public interest communications relies on trigger events as one of the most salient features; the Parkland school shooting was certainly an "event [with] a significant impact on the issue [that allowed] meaningful, positive behavioral change to occur in a limited time frame" (p. 26). Although most research on gun violence and school shootings has focused on public health or traditional media, a shift in perspective could help to bring new light to approaching resolutions for this important issue.

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Appendix: Tables

Table 1

General Descriptives by Platform

Variable	*Response*	*Instagram*	*Twitter*
Poster ID	Individual	58.8% (*n*= 294)	88.4% (*n* = 442)
	Organization	38.8% (*n* = 194)	10.6% (*n* = 53)
	Not clear	2.4% (*n* = 12)	1.0% (*n* = 5)
Contains hyperlinks	No	98.2% (*n* = 491)	91.3% (*n* = 639)
	Yes	9% (*n* = 5.2)	8.7% (*n* = 61)
Mentions Trump	Positive	1.4% (*n* = 7)	91.3% (*n* = 639)
	Negative	8.4% (*n* = 42)	8.7% (*n* = 61)
	Both	.2% (*n* = 1)	
	Neither	90.0% (*n* = 450)	
Political reference	No	91.6% (*n* = 458)	91.3% (*n* = 639)
	Yes	8.4% (*n* = 42)	8.7% (*n* = 61)
Gun rights	Anti	.6% (*n* = 3)	28.7% (*n* = 201)
	Pro	15.6% (*n* = 78)	14.9% (*n* = 104)
	Not present	83.8% (*n* = 419)	56.4% (*n* = 395)
Gun control	Anti	4.2% (*n* = 21)	3.1% (*n* = 22)
	Pro	52.6% (*n* = 263)	25.3% (*n* = 177)
	Not present	43.0% (*n* = 215)	71.6% (*n* = 501)

NRA	No	86.8% (*n* = 434)	97.1% (*n* = 680)
	Yes	13.2% (*n* = 66)	2.9% (*n* = 20)
Second Amendment	No	97.0% (*n* = 485)	91.1% (*n* = 643)
	Yes	3.0% (*n* = 15)	9.1% (*n* = 57)
Gun rights conspiracies	No	90.4% (*n* = 452)	91.3% (*n* = 639)
	Yes	9.6% (*n* = 48)	8.7% (*n* = 61)
Guns as cause to mass shootings	No	96.2% (*n* = 481)	97.6% (*n* = 683)
	Yes	3.8% (*n* = 19)	2.4% (*n* = 17)
Reaction to guns	Gun control	56.8% (*n* = 284)	57.0% (*n* = 399)
	Gun rights	14.8% (*n* = 74)	43.0% (*n* = 301)
	Not mentioned	28.4% (*n* = 142)	
Assault weapons sentiment	Pro	2.6% (*n* = 13)	93.4% (*n* = 654)
	Anti	213.0% (*n* = 65)	6.6% (*n* = 46)
	Not mentioned	84.4% (*n* = 422)	
Criticism of assault weapons knowledge	Yes	.2% (*n* = 1)	62.3% (*n* = 436)
	Doesn't matter	.2% (*n* = 1)	37.7% (*n* = 264)
	Not mentioned	99.6% (*n* = 498)	
Gun safety practices	No	99.8% (*n* = 499)	91.3% (*n* = 639)
	Yes	.2% (*n* = 1)	8.7% (*n* = 61)
Background checks	Laws strengthened	.8% (*n* = 4)	91.3% (*n* = 639)
	Not mentioned	99.2% (*n* = 496)	8.7% (*n* = 61)

Table 2

Descriptives Risk Perception Variables by Platform

Variable	*Response*	*Instagram*	*Twitter*
Fear	No	92.2% (*n* = 461)	97.0% (*n* = 485)
	Yes	7.8% (*n* = 39)	3.0% (*n* = 15)
Danger	No	89.2% (*n* = 446)	94.4% (*n* = 472)
	Yes	10.8% (*n* = 54)	5.6% (*n* = 28)
Involuntary	No	97.6% (*n* = 488)	100.0% (*n* = 500)
	Yes	2.4% (*n* = 12)	.0% (*n* = 0)
Untrustworthy individuals/entities	No	69.8% (*n* = 349)	59.0% (*n* = 295)
	Yes	30.2% (*n* = 151)	41.0% (*n* = 205)
Identifiable victim	No	86.8% (*n* = 434)	96.0% (*n* = 480)
	Yes	13.2% (*n* = 66)	4.0% (*n* = 20)
Dreaded, adverse outcomes	No	68.2% (*n* = 341)	91.4% (*n* = 457)
	Yes	31.8% (*n* = 159)	8.6% (*n* = 43)

Table 3

Descriptives Contagion Variables

Variable	*Response*	*Instagram*	*Twitter*
Gun violence education	No	98.2% (*n* = 491)	98.4% (*n* = 492)
	Yes	.8% (*n* = 4)	1.6% (*n* = 8)
Detailed gun violence description	No	93.4% (*n* = 467)	97.2% (*n* = 486)
	Yes	6.6% (*n* = 33)	2.8% (*n* = 14)
Name of suspected shooter(s)	No	95.0% (*n* = 475)	99.8% (*n* = 499)
	Yes	5.0% (*n* = 25)	.2% (*n* = 1)
Photo of suspected shooter(s)	No	99.0% (*n* = 495)	98.4% (*n* = 492)
	Yes	1.0% (*n* = 5)	1.6% (*n* = 8)
Mention specific type of firearm	No	85.0% (*n* = 425)	94.8% (*n* = 474)
	Yes	15.0% (*n* = 75)	5.2% (*n* = 26)
Information: help for trauma caused by gun violence	No	100.0% (*n* = 500)	99.8% (*n* = 499)
	Yes	.0% (*n* = 0)	.2% (*n* = 1)

Table 4

Descriptives Social Ecological Model Variables

Variable	*Focus*	*Response*	*Instagram*	*Twitter*
Individual	Facilitating gun violence	No	96.4% (*n* = 482)	96.4% (*n* = 482)
		Yes	3.6% (*n* = 18)	3.6% (*n* = 18)
	Stopping gun violence	No	94.6% (*n* = 473)	98.2% (*n* = 491)
		Yes	5.4% (*n* = 27)	1.8% (*n* = 9)
Interpersonal	Facilitating gun violence	No	99.6% (*n* = 498)	99.4% (*n* = 497)
		Yes	.4% (*n* = 2)	.6% (*n* = 3)
	Stopping gun violence	No	96.2% (*n* = 481)	99.0% (*n* = 495)
		Yes	3.8% (*n* = 19)	1.0% (*n* = 5)
Community/ Organization	Facilitating gun violence	No	86.6% (*n* = 433)	87.2% (*n* = 436)
		Yes	13.4% (*n* = 67)	12.8% (*n* = 64)
	Stopping gun violence	No	71.8% (*n* = 359)	78.8% (*n* = 394)
		Yes	28.2% (*n* = 141)	21.2% (*n* = 106)
Policy/Society	Facilitating gun violence	No	86.8% (*n* = 434)	80.6% (*n* = 403)
		Yes	13.2% (*n* = 66)	19.4% (*n* = 97)
	Stopping gun violence	No	85.0% (*n* = 425)	75.0% (*n* = 375)
		Yes	15.0% (*n* = 75)	25.0% (*n* = 125)

Table 5

Descriptives Advocacy Variables

Variable	*Response*	*Instagram*	*Twitter*
Advocacy	No	62.2% (*n* = 311)	79.6% (*n* = 398)
	Yes	37.8% (*n* = 189)	20.4% (*n* = 102)
Specific target	No	95.8% (*n* = 181)	95.5% (*n* = 254)
	Yes	4.2% (*n* = 8)	4.5% (*n* = 12)
Audience	Federal	48.1% (*n* = 91)	44.1% (*n* = 45)
	State	13.8% (*n* = 26)	2.0% (*n* = 2)
	NRA	1.6% (*n* = 3)	2.0% (*n* = 2)
	Businesses	.5% (*n* = 1)	14.7% (*n* = 15)
	Private citizens	3.2% (*n* = 6)	2.0% (*n* = 2)
	General	27.0% (*n* = 51)	34.3% (*n* = 35)
	Multiple	1.6 (*n* = 3)	.0% (*n* = 0)
	Not specific	4.2% (*n* = 8)	.0% (*n* = 0)
Petitions	No	100.0% (*n* = 189)	99.0% (*n* = 101)
	Yes	.0% (*n* = 0)	1.0% (*n* = 1)
Meet with representatives	No	73.0% (*n* = 138)	81.4% (*n* = 83)
	Yes	27.0% (*n* = 51)	18.6% (*n* = 19)
Boycott businesses	No	97.4 (*n* = 184)	91.2% (*n* = 93)
	Yes	2.6% (*n* = 5)	8.8% (*n* = 9)
Voting	No	85.7% (*n* = 162)	86.3% (*n* = 88)
	Yes	14.3% (*n* = 27)	13.7% (*n* = 14)
Register to vote	No	98.9% (*n* = 187)	93.1% (*n* = 95)
	Yes	1.1% (*n* = 2)	6.9% (*n* = 7)
Marches/rallies/walkouts	No	46.6% (*n* = 88)	86.3% (*n* = 88)
	Yes	53.4% (*n* = 101)	13.7% (*n* = 14)

Table 6

Chi-Square Comparisons of Instagram and Twitter

Variable	*Response*	*Frequency*	*Instagram*	*Twitter*	χ^2	*df*	*p-value*
Political reference	Yes	Observed	42	142*			
		Expected	92	92	66.603	1	<.001
	No	Observed	458	358			
		Expected	408	408			
NRA mentioned	Yes	Observed	66	99*			
		Expected	82.5	82.5	7.904	1	.005
	No	Observed	434	401			
		Expected	417.5	417.5			
Gun rights conspiracy	Yes	Observed	48*	10			
		Expected	29	29	26.429	1	<.001
	No	Observed	452	490			
		Expected	471	471			
Gun control conspiracy	Yes	Observed	0	40*			
		Expected	20	20	41.667	1	<.001
	No	Observed	500	460			
		Expected	480	480			
Guns: cause of mass shooting	Yes	Observed	19*	6			
		Expected	12.5	12.5	6.933	1	.008
	No	Observed	481	494			
		Expected	487.5	487.5			
Assault weapons	Pro	Observed	13	0			
		Expected	6.5	6.5			
	Anti	Observed	65	35	24.085	2	<.001
		Expected	50	50			
	Not mentioned	Observed	422	465			
		Expected	443.5	443.5			
"Good guy with a gun" argument	Yes	Observed	0	12*			
		Expected	6	6	12.146	1	<.001
	No	Observed	500	488			
		Expected	494	494			
Patriotism or American flag present	Yes	Observed	3	26*			
		Expected	14.5	14.5	18.786	1	<.001
	No	Observed	497	474			
		Expected	485.5	485.5			
Advocacy	Yes	Observed	189*	102			
		Expected	145.5	145.4	36.686	1	<.001
	No	Observed	311	398			
		Expected	354.5	354.4			

Boycotting businesses	Yes	Observed	5	9*			
		Expected	9.1	4.9	5.521	1	.019
	No	Observed	184	93			
		Expected	179.9	97.1			
Marches/rallies/walkouts	Yes	Observed	101*	14*			
		Expected	74.7	40.3	43.714	1	<.001
	No	Observed	88	88			
		Expected	114.3	61.7			
Anger/frustration	Yes	Observed	214*	159			
		Expected	186.5	186.5	12.934	1	<.001
	No	Observed	286	341			
		Expected	313.5	313.5			
Sadness	Yes	Observed	49*	22			
		Expected	35.5	35.5	11.052	1	.001
	No	Observed	451	478			
		Expected	464.5	464.5			
Thankfulness	Yes	Observed	2	29*			
		Expected	15.5	15.5	24.268	1	<.001
	No	Observed	498	471			
		Expected	484.5	484.5			
Mentions religion	Yes	Observed	26*	10			
		Expected	18	18	7.377	1	.007
	No	Observed	474	490			
		Expected	482	482			
Cut business ties with NRA	Yes	Observed	4	19*			
		Expected	11.5	11.5	10.013	1	.002
	No	Observed	496	481			
		Expected	488.5	488.5			
Gun rights	Pro	Observed	78*	32			
		Expected	55	55			
	Anti	Observed	3	2			
		Expected	2.5	2.5			
	Both	Observed	0	2	23.730	3	<.001
		Expected	1	1			
	Not mentioned	Observed	419	464			
		Expected	441.5	441.5			
Gun control	Pro	Observed	263	177			
		Expected	220	220			
	Anti	Observed	21	15			
		Expected	18	18			
	Both	Observed	1	1	34.024	3	<.001
		Expected	1	1			
	Not mentioned	Observed	215	307			
		Expected	261	261			

Fear	Yes	Observed	39*	15			
		Expected	27.0	27.0	11.276	1	.001
	No	Observed	461	485			
		Expected	473	473			
Danger	Yes	Observed	54*	28			
		Expected	41	41	8.980	1	.003
	No	Observed	446	472			
		Expected	459	459			
Involuntary	Yes	Observed	12*	0			
		Expected	6	6	12.146	1	<.001
	No	Observed	488	500			
		Expected	494	494			
Identifiable victim	Yes	Observed	66*	20			
		Expected	43	43	26.920	1	<.001
	No	Observed	434	480			
		Expected	457	457			
Association with untrustworthy entities	Yes	Observed	151	205*			
		Expected	178	178	12.719	1	<.001
	No	Observed	349	295			
		Expected	322	322			
Dreaded, adverse, irreversible outcomes	Yes	Observed	159*	43			
		Expected	101	101	83.476	1	<.001
	No	Observed	341	457			
		Expected	399	399			
Details of gun violence	Yes	Observed	33*	14			
		Expected	23.5	23.5	8.060	1	.005
	No	Observed	467	486			
		Expected	476.5	476.5			
Name of suspected shooter	Yes	Observed	25*	1			
		Expected	13	13	22.745	1	<.001
	No	Observed	475	499			
		Expected	487	487			
Name/model of firearm	Yes	Observed	75*	26			
		Expected	50.5	50.5	26.443	1	<.001
	No	Observed	425	474			
		Expected	449.5	449.5			
SEM: individual-level stopping gun violence	Yes	Observed	27*	9			
		Expected	18	18	9.336	1	.002
	No	Observed	473	491			
		Expected	482	482			
SEM: interpersonal-level stopping gun violence	Yes	Observed	19*	5			
		Expected	12	12	8.367	1	.004
	No	Observed	481	495			
		Expected	488	488			

SEM: community-level stopping gun violence	Yes	Observed	141*	106			
		Expected	123.5	123.5	6.586	1	.010
	No	Observed	359	394			
		Expected	376.5	376.5			
SEM: policy-level facilitating gun violence	Yes	Observed	66	97*			
		Expected	81.5	81.5	7.044	1	.008
	No	Observed	434	403			
		Expected	418.5	418.5			
SEM: policy-level stopping gun violence	Yes	Observed	75	125*			
		Expected	100	100	15.625	1	<.001
	No	Observed	425	375			
		Expected	400	400			

Table 7

Dichotomous independent variables and median engagement on Instagram

Engagement variable	**Variable**	***Mdn* present**	***Mdn* absent**	***U***	***Z***	***p*-value**
Comments	Details of gun violence	39.00	11.00	9,911.500	2.756	.006
Likes	Involuntary	2831.00	137.00	4,817.500	3.821	<.001
Comments	Involuntary	403.00	11.00	5,156.500	4.516	<.001
Likes	Identifiable victim	597.00	131.00	17,410.500	2.824	.005
Comments	Identifiable victim	35.00	10.00	17,900.500	3.279	.001
Comments	Untrustworthy entities	27.00	8.00	30,794.500	3.003	.003
Comments	NRA	30.50	10.50	17,081.500	2.529	.011
Comments	Conspiracies	30.50	10.00	13,420.500	2.708	.007
Likes	Specific firearm	276.00	136.00	18,351.000	2.092	.036
Comments	Specific firearm	29.00	11.00	18,661.500	2.366	.018
Likes	Guns as cause shootings	2831.00	136.00	6,404.500	2.971	.003
Comments	Guns as cause shootings	403.00	11.00	6,882.500	3.752	<.001
Comments	SEM-Community: facilitate gun violence	36.00	10.00	17,041.000	2.309	.021
Likes	American flag	8.00	160.00	72.500	-2.697	.007
Likes	Advocacy	186.00	131.00	32,704.000	2.116	.034
Comments	Anger/frustration	21.0	8.00	34,527.000	2.460	.014
Comments	Sadness	4.00	16.00	9,003.500	-2.134	.033
Likes	Republican mentioned	418.00	3.50	68.000	2.223	.012
Comments	Republican mentioned	17.00	.00	64.000	1.963	.048
Likes	Gun visual	38.00	19.50	68,501.000	4.223	<.001

Table 8

Dichotomous independent variables and median engagement on Twitter

Engagement variable	Variable	*Mdn* present	*Mdn* absent	*U*	*Z*	*p*-value
Retweets	Advocacy	156.00	25.50	23,577.500	2.543	.011
Likes	Advocacy	368.50	39.00	23,752.000	2.666	.008
Replies	Advocacy	14.00	1.00	23,763.000	2.773	.006
Retweets	Anger/frustration	13.00	56.00	23,944.500	-2.124	.034
Likes	Anger/frustration	17.00	131.00	23,102.000	-2.676	.007
Replies	Anger/frustration	1.00	4.00	23,697.500	-2.363	.018
Retweets	Thankfulness	1998.00	27.00	10,106.000	4.381	<.001
Likes	Thankfulness	8406.00	44.00	10,576.500	4.986	<.001
Replies	Thankfulness	168.00	1.00	9,901.500	4.238	<.001
Retweets	Gun violence details	521.00	29.00	4,764.000	2.580	.010
Likes	Gun violence details	672.50	49.00	4,564.000	2.191	.028
Replies	Gun violence details	60.50	1.00	4,828.500	2.788	.005
Retweets	Untrustworthy entities	17.00	51.00	26,502.500	-2.373	.018
Likes	Untrustworthy entities	28.00	95.00	25,530.500	-2.976	.003
Retweets	Irreversible outcomes	5.00	43.00	8,001.500	-2.033	.042
Likes	Irreversible outcomes	5.00	77.00	7,827.500	-2.216	.027
Retweets	Political reference	124.50	17.00	30,275.000	3.366	.001
Likes	Political reference	278.00	30.00	29,710.500	2.961	.003
Replies	Political reference	7.50	1.00	30,046.000	3.310	.001
Retweets	SEM-Community: stop gun violence	307.00	15.00	25.992.500	3.908	<.001
Likes	SEM-Community: stop gun violence	719.00	28.00	26,219.500	4.061	<.001
Replies	SEM-Community: stop gun violence	23.00	1.00	26,229.500	4.219	<.001
Retweets	SEM-Policy: stop gun violence	218.00	17.00	28,301.500	3.511	<.001
Likes	SEM-Policy: stop gun violence	383.00	28.00	28,794.000	3.847	<.001
Replies	SEM-Policy: stop gun violence	7.00	1.00	26,628.000	2.376	.017

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Formative Research on Promoting Car-Free Youth Transportation

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Abstract

Car accidents are the leading cause of death among U.S. 10- to 24-year-olds (CDC, 2018). Motivating youth to drive less by choosing car-free mobility may reduce fatalities and contribute to positive environmental impact. Yet, little is known about how youth perceive car-free transportation or what may motivate them to choose it more often. Results from focus groups analyzed through the lens of the theory of planned behavior explore youth perceptions and experiences about car-free transportation. Perceived effectiveness of car-free messages also is presented. This study contributes to understandings of the theoretical underpinnings of an understudied area of public interest communications. Practical recommendations for strategic communication with youth about car-free transportation include appealing to their agency and autonomy and reinforcing their safety.

Introduction

Car accidents are the leading cause of death and a top cause of non-fatal injury among 10- to 24-year-olds in the United States (Centers for Disease Control and Prevention, 2018). The United States has the highest traffic fatality rates per capita among 19 other high-income and populated peer countries[1] (Sauber-Schatz et al., 2016). High fatality rates persist despite declining crash rates per mile because Americans, especially youth, drive more than their peers in other countries

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[1]Peer countries include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Japan, the Netherlands, New Zealand, Norway, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

(Litman, 2016). The United States is predicted to continue to experience depressed gains in reducing traffic fatalities unless more is done to get high-risk drivers, such as youth, to choose mobility or transportation options, such as walking, biking, or riding public transit, that do not involve a car (car-free mobility). Yet, few studies have investigated how to motivate youth to engage in car-free mobility.

Research shows transit ridership is associated with decreased fatality rates among youth and the total population (Litman, 2016). Research also has found that U.S. cities with more transit-focused access and supportive policies have about half the average youth and total traffic fatality rates as cities with more automobile-focused policies and access (Litman, 2016). Promoting youth use of car-free mobility is likely to lower the fatality and injury rates among youth, but also among the general population, since most fatal car crashes involve multiple vehicles (Litman, 2016). There also may be a safety benefit to increasing walking and biking. Analyses of communities of varying size and in multiple countries have found that the presence of more walkers and bikers in and of itself is associated with less pedestrian traffic fatalities, although these studies were not done with youth specifically, and many scholars have correctly pointed out the importance of increasing traffic safety systems in conjunction with promoting these forms of car-free mobility (Bhatia & Wier, 2011; Elvik & Bjornskau, 2017; Jacobsen, 2003). The U.S. government also has invested in improving youth access to safe car-free mobility through the Safe Routes to School program, which has allocated more than a billion dollars of local school district support with an emphasis on infrastructure improvements (McDonald et al., 2013).

In addition to serving the public interest through the significant potential reductions in death and injury, understanding the current attitudes, beliefs, and behaviors of youth in relation to car-free mobility contributes to the sustainability of a long-term environmentally conscious transportation system. Promoting support for and use of a planned transportation system (e.g., transit, bike and walk paths) among youth helps contribute to a safe, healthy, and sustainable transportation system and fosters livable communities by providing secure mobility to a segment of the public typically restricted in their transportation choices (i.e., may not be old enough to drive or cannot afford a car).

Increasing youth car-free mobility is also a strategic investment in our future to help grow and sustain long-term use of car-free transportation options because the transportation system related beliefs and behaviors of youth are likely to influence their willingness to access transportation services, such as transit, as adults (Cain, 2006). Encouraging youth to understand and engage with car-free transportation options also may increase their interest in transportation systems, which could translate into future transportation system support through voting, citizen engagement, and interest in a transportation-related career (Cain, 2006). Thus, it is important for transportation communities to actively communicate with youth who are or could be future transit riders or who have access to other car-free options. However, communicating what young audiences may see as complex or dry information in a way that is motivating and engaging

requires specialized age-appropriate communication strategies and tactics that must be developed and tested prior to implementation.

This study seeks to build on the sparse car-free mobility-related research with youth to create and evaluate communication messaging that fosters more positive attitudes, intentions, and behaviors related to transit and other car-free transportation options among youth. The theory of planned behavior was applied to the interpretation of focus group data among youth. This research also analyzed youth feedback on test messages aimed at encouraging car-free mobility. Three focus groups were conducted with participants (N = 28) who were entering the seventh, eighth, and ninth grades. This study used a systematic theory-based approach that consists of two stages of formative research consistent with best practices in strategic message development (Berkowitz et al., 2008; Noar, 2006). The first stage is preproduction, which sources an audience's attitudes and beliefs to develop strategic messaging for a representative population. The second stage is production testing, where an audience reacts to specific messages to test the appeal and perceived or actual effectiveness of those messages. This study tested 15 text messages that were grouped under three themes: appeals to FOMO (fear-of-missing-out), Generation Z empowerment, and Autonomy. The results contribute to our understanding of the theoretical underpinnings of an understudied area relevant to health and environmental communication that is important and potentially life-saving—how to communicate with youth to increase their support and use of car-free mobility.

Literature review

This example of public interest communications focuses on formative research for a strategic campaign. Public interest communications applies strategic communication theories and practices to support positive behavioral changes that are in the public's interest (Fessmann, 2017). In this case the positive behavioral change of engaging youth in car-free mobility has the potential to benefit both individuals and society across the domains of health, safety, environment, and civic engagement. Formative research fits well within public interest communications as it is a strategic communication best practice and also aligns with the public interest communications priority to do no harm (Fessmann, 2017) because formative research seeks to understand a public, its experiences, needs, and preferences to shape the social change strategic campaign rather than imposing the beliefs of an organization onto a public.

Promoting car-free mobility among youth

A gap in the literature exists among studies about effective transportation messaging targeting youth. Taylor and Fink (2003) identified two types of transit studies: descriptive (i.e., related to rider attitudes and perceptions) and causal (i.e., related to systems or institutions impacting ridership). Neither category finds much representation in peer-reviewed articles about promoting

car-free mobility among youth, although some descriptive studies about youth attitudes and perceptions of public transit use do exist at the national level (Brown et al., 2016; Clifton, 2003; Davis & Dutzik, 2012) and within regional data sets (Cain, 2006; Grimsrud & El-Geneidy, 2014; Thomas, 2007). Important lessons from youth-targeted transportation studies have concluded that youth use of public transit increased in the 2000s (Brown et. al, 2016; Davis & Dutzik, 2012) from the mid-1990s (Clifton, 2003). Clifton (2003) analyzed a 1995 national survey to argue that as adolescence progresses and the social lives of teens increase, greater reliance on cars follows: "Teenagers appear to abandon walking and [public] transit use as soon as the automobile becomes an option" (p. 11). Research has shown there may be racial and economic underpinnings to youth mobility, with Black, Hispanic, and low-income children being more likely to walk or ride a bike to school compared to White or higher income children (McDonald, 2008).

By contrast, Brown et al. (2016) and Davis and Dutzik (2012) analyzed 2001 and 2009 National Household Travel Survey data to argue an increase in youth use of public transit. Brown et al. (2016) suggested this shift may not only be economic due to high costs associated with automobiles, but also a factor of youth moving closer to urban areas. Brown et al. (2016) posited that youth find urban areas more attractive, resulting in favorable impressions of transportation modes found in those areas. Davis and Dutzik (2012) suggested the shift in the 2000s may be techno-social due to the popularizing of bike- and ride-share programs. These programs reduce social stigma in not owning and operating a vehicle for personal transit. The assessments of Brown et al. (2016) and Davis and Dutzik (2012) also suggested that characteristics of New Urbanism (promoting environmentally sustainable habits through urban design) may share a relationship with youth use of public transit in growing urban areas. Wolcha et al., 2014) argued that increases in green space and active transport in urban areas are both issues of environmental justice and public health. Improvement of ecosystems and opportunities to engage with them can improve the public health of urban populations when implemented appropriately.

Few studies, however, have focused on connecting the transportation-related attitudes and behaviors of youth to developing messages that promote car-free mobility. One exception is a study that conducted extensive formative research on the types of transit messaging that might work with teenagers (Cain, 2006; Cain et al., 2005). The Cain study recommended three potential communication strategies that could be successful with teenagers: (1) highlight how transit allows teens to be more independent and less reliant on their parents for transportation; (2) highlight the safety benefits of using transit compared to the responsibility of driving; and (3) highlight the high cost of car travel and the better uses of their money to save for things teens care about (e.g., clothes). The Cain study's messaging recommendations were based on five mobility themes related to teen use of public transit: safety, cost, access-availability, reliability, and image. Via focus groups, Cain (2006) found that teens associated public transit such as buses with a negative self-image (e.g., colloquially "uncool"). Teens also reported public transit to be less reliable than personal transit; however, teens reported public transit to be more economical.

In synthesizing qualitative data from teens with a survey of transit agencies, Cain (2006) found that agencies viewed their social image as an obstacle to increasing youth ridership (e.g., stereotypes among teens about public transit). Both agencies and individuals express cultural frames as communication barriers in relation to increasing ridership. It is important to note that findings from Cain (2006) may reflect specific regional factors (e.g., favorable weather), which support the need for more research in different geographic locations to understand how findings may be comparable across geographies and to reflect that more than a decade has passed since the last study.

At least two transportation reports discussed the implementation of youth-target transit campaigns in terms of the development and materials created, but only process (distribution) data were available rather than formative evaluation data on the perceived or actual effectiveness of the materials (Cain et al., 2005; Lindsey et al., 2003). As an outcome of his research in Florida, Cain (2006) suggested strategic approaches to public transit agencies to increase youth ridership; however, the study did not make claims about the effectiveness of those strategies and encouraged future research on this issue.

Applying the theory of planned behavior

The theory of planned behavior was applied to the interpretation of the focus group data among youth collected for this study. The theory of planned behavior has been used successfully to predict and explain car-free mobility by adults (Heath & Gifford, 2002; Lo et al., 2016; Lois et al., 2015). Thus, the current study seeks to apply this theory to youth transportation behaviors and reactions to promotional messaging.

The theory of planned behavior is a model of behavioral determinants (Ajzen, 1991). Within the theory of planned behavior, behavior-relevant attitudes, normative beliefs, and perceived behavioral control come together to predict an individual's intention to perform the behavior, which then affects behavior (Ajzen, 1991). Attitudes related to car-free mobility are observed when an individual attaches positive or negative value to the behavior or its attributes or outcomes. For example, a young person may express a positive attitude about how much he/she enjoys the feeling of wind on his/her face when riding his/her bike or a negative attitude about how slow he/she thinks the bus is compared to driving. Normative beliefs within the theory of planned behavior are subjective beliefs about whether other people, typically other people an individual is motivated to comply with, approve or disapprove of the behavior (Fishbein & Ajzen, 1975). For example, youth may discuss how much their parents want them to ride the bus. Perceived behavioral control describes an individual's sense of perceived ability to perform the behavior. A young person's perception of how easy or difficult it is for him/her to ride light rail or walk to his/her destination are examples of perceived behavioral control beliefs. Personal agency or control over the ease or difficulty is often associated with perceived behavioral control (Ajzen, 1991). Lastly, intention to perform the behavior is seen as a crucial predictor of the actual behavior in the theory of planned behavior (Fishbein & Ajzen, 1975). A young person

may express his/her plans to walk more or, conversely, to drive less as an example of car-free mobility intentions.

Formative research for channel selection

Secondary outcomes of this study involved investigating the potential of delivering car-free mobility promotion messaging to youth via text and graphics sent to their mobile phones. Using mobile phones to deliver campaign messages is likely to be less costly than print materials, which are commonly used, and when automated, require minimal staff oversight. The use of mobile phones as marketing outreach tools is increasing as teen access to mobile phones increases. Among U.S. 13- to 14-year-olds, 68% own a smart phone, 14% own a basic phone, and only 18% do not have their own phones (Lenhart, 2015). The mobile phone ownership numbers are expected to increase over time, as teens get older, and are higher among Black teens and teens living in urban areas (Lenhart, 2015).

Participants and research questions

This study focused on middle school students transitioning to high school within the next few months or years in anticipation of increased opportunity to access transit services, increased independence in making transportation decisions, increased opportunities to drive with peers or alone in the coming years. Findings were analyzed using a combination of qualitative coding and quantitative content analysis. Findings addressed the following research questions:

RQ1: What are the car-free mobility relevant attitudes, norms, perceived behavioral control beliefs, intentions, and behaviors of study youth?

RQ2: Which communication channels and settings may be effective with study youth in regards to transportation system information and promotion?

RQ3: How is each of the communication strategy themes promoting car-free mobility perceived by study youth?

Method

This study used a systematic theory-based approach that consists of two stages of research[2] consistent with best practices in strategic message development (Atkin & Freimuth, 2013;

[2]This project was funded by the National Institute for Transportation and Communities (NITC-SS-1077), a U.S. DOT University Transportation Center.

Berkowitz et al., 2008; Shafer et al., 2011). The first stage is preproduction, which sources an audience's attitudes and beliefs to develop strategic messaging for a representative population. The second stage is production testing, where an audience reacts to specific messages to test the appeal and perceived or actual effectiveness of those messages (Hennink-Kaminski et al., 2014). The approach in this study focused on ascertaining youths' perceived message effectiveness, which documents participants' reactions to tested messages in terms of perceptions about the message that may impact its effectiveness (e.g., relevance, authenticity, likability) (Dillard et al., 2007). As scholars have suggested, understanding perceived message effectiveness may be a necessary but not sufficient determination of a message's actual effectiveness at producing behavior change (Dillard et al., 2007; Fishbein et al., 2002). Since this study's topic is relatively unexplored in communication campaign literature, a strategic decision was made to first investigate perceived message effectiveness using qualitative methods that allow for participants to provide open-ended responses with the recommendation that future studies build on this initial work and test actual message effectiveness through field trials and experimental research.

Preproduction and production testing in this study consisted of three focus groups moderated by the Principal Investigator (PI) and a graduate researcher. Focus groups have long been a staple in formative research because of their flexible design and the value of group discussions that help participants build off each other's ideas and perceptions (Atkin & Freimuth, 2001). In each focus group, the preproduction research was conducted first and was followed by the production testing with the same participants, which has been shown to be a useful way to utilize hard to reach participants, such as adolescents or their parents (Shafer et al., 2011; Patel et al., 2014). Moderators used the same discussion guide in each focus group that included questions about participants' transportation habits, barriers to and motivations for car-free transportation, communication and information seeking habits and preferences, and perceived effectiveness of sample messages. All procedures were approved by the researchers' university institutional review board (IRB).

Participants and recruitment

Focus group participants in this study ($N = 28$) were teenagers on summer break who were entering the seventh, eighth, and ninth grades who lived within the boundary of Portland, OR. This demographic (i.e., middle school students) in this geographic location are eligible to receive a free transit pass to use public transit upon entering a local public high school. Of the 28 participants, 16 were male and 12 were female. Of the 28 participants, 22 identified their race or ethnicity as African American, three as Hispanic, and three as White.

Thirteen teenagers were recruited from a youth-focused community program whose mission is to provide enrichment activities for local youth. Researchers recruited these participants following in-person visits with program administrators and the strategic placement of promotional fliers advertising the study within the program's public spaces. The remaining 15

teenagers (Focus group (FG) two: 7 teens; FG three: 8 teens) were recruited by an informational website that the researchers created to communicate the study's objectives. The researchers called and emailed more than 30 youth-focused community programs in the study area representing a variety of program types, such as sports, science, outdoor recreation, spiritual, summer camps, and community clubs, requesting that they direct parents and youth to the website via organizational newsletters, emails, or conversations. The informational website explained the study's objectives to parents and teens alike, allowing teenagers to register online to participate in one of two focus groups. The graduate researcher called teens who registered online via the information website to speak with youth and parents to confirm eligibility and participation in the youth's preferred focus group time slot. Other than grade-level and geography, no demographic targeting or screening was used during recruitment and all youth who produced a signed consent form and assented to the study participated. Thus, the authors are unsure why the demographic representation of volunteers was skewed toward African-American and male youth.

Focus group procedures

Three focus groups were conducted. No parents or guardians participated in any focus group following signature of parental consent forms authorizing youth to participate in the study. Youth participants also provided assent to participate. The PI conducted the first two focus groups, while the graduate researcher conducted the third under the supervision of the PI. Both researchers applied a semi-structured approach to focus group moderation to allow for probing questions based on participant responses to the initial query.

The average time of all three focus groups was 1:02:55 minutes (FG one: 54:30 minutes; FG two: 1:01:30 minutes; FG three: 1:12:07 minutes). The average duration of each focus group in the preproduction stage was 37:24 minutes [based on FG one: 35:40 minutes; FG two: 28:11 minutes; FG three: 47:00 minutes). Production testing immediately followed preproduction, such that moderators presented each focus group participant with a printed copy of the text messaging prompts (see Table 1) after preproduction questions were finished. Printed copies had three pages—one page per theme. Each page featured five text messages within iPhone skins and room underneath each phone to write reaction comments. Moderators requested that participants write their thoughts, feelings, and impressions on each text message as a reaction to how effective it would be at getting them to use transportation options other than driving or riding in a car. Participants completed this as individuals and were free to write any thoughts about their reactions to the messages. There were no reaction prompts other than the instructions mentioned. Production testing lasted an average of 25:59 minutes (FG one: 18:50 minutes; FG two: 33:19 minutes; FG three: 25:07 minutes). Focus groups were audio recorded with the permission of participants and their parents. Audio files were de-identified and transcribed for qualitative coding. After each focus group, participants received cash or a Visa gift card in exchange for their participation.

Production testing message development

Six undergraduate students under the direction of the PI and graduate researcher developed the messages for production testing. Undergraduate students reported to the development team about relevant peer-reviewed articles. From discussions with undergraduate students, production-testing concepts were developed. By way of discussion with the PI and graduate researcher, production testing concepts became themes that acted as frameworks to craft strategic messaging. Three themes were selected as potentially relevant for the development of strategic car-free mobility messaging targeting youth: FOMO (fear-of-missing-out), Autonomy, and Generation Z. Once themes were identified and defined, the research team developed sets of visual text messages to represent the frameworks as actual text messages. After several rounds of ideation and editing among the research team, five text messages that incorporated a mix of text and static images were developed for each of the three themes. A total of 15 individual text message prompts were developed and presented to focus group participants in the form of mock-up mobile smart phones (e.g., Apple iPhone skins with the text and images inside).

Message themes

FOMO. Fear-of-missing-out

The FOMO theme appeals to teens' desire for social connection and to be seen as operating within the social norms of the group. This theme presents an idea to an audience member as contagious (e.g., popular, trending). This strategy may not be as effective at changing strongly held opinions but can sway the undecided and serve as a useful reminder for message supporters (Austin & Pinkleton, 2006). Crafted messages may attempt to demonstrate that a behavior must be normal because so many people like the audience member do it or think it. Messages within this theme attempt to show or discuss other teens practicing car-free mobility and enjoying it (e.g., having unique or fun experiences with public transit). Messages within this theme may suggest or hint at how teens make comparisons between themselves and others. Messages within this theme may highlight things that can be seen or done solely via car-free mobility. Message appeals within the FOMO theme may hint at anticipated regret teens may feel if they do not engage in car-free mobility. Other studies have found associations between FOMO in youth, mobile phone or social media use, and risky communication, such as distracted driving (Hefner et al., 2018; Przybylski et al., 2013). The current study sought feedback on the potential for applying FOMO in messaging that promotes positive communication and behaviors.

Autonomy

The Autonomy theme appeals to teens' desire for independence from their parents. Messages within this theme may suggest that by teens choosing their own car-free transportation they attain greater freedom, which reduces reliance on others to meet transport needs. Messages with an

autonomy appeal may try to get teens to recall a moment when they felt frustrated by their reliance on others. Autonomy appeals are likely to associate teen selection of car-free transportation with supporting teens' goals of autonomy, achievement, and competence. Messages within this theme are likely to encourage teens to explore their environment and decide for themselves where they want to go, when, and how they will get there. The autonomy theme follows Cain's (2006) strategic recommendation to reach teenagers through messaging that highlights increased independence and decreased reliance on parents for transportation. In research on mobile media, Ling (2005) concluded that teens use mobile devices to increase integration with peer groups as well as increase emancipation from their parents.

Generation Z

The Generation Z theme appeals to teens' desire to be valued and seen as having important needs and wants. Messages within this theme validate teens' experiences and needs by communicating their importance (i.e., empowerment messaging). Messages with a Gen Z appeal are likely to impress upon teens that public transit authorities consider the needs and wants of teens when authorities design services. Gen Z messages may employ a form of personalization and/or help teens to feel like they have ownership of their public transit choices (e.g., "make it yours" messaging). Within this theme teens are encouraged to share their opinions and feelings because they would be heard by the transit authorities. Although a dearth exists in academic research on what motivates the Gen Z population, there is considerable speculation among popular and marketing industry media about how best to communicate with the Gen Z population that we drew from for this study (e.g., Kantar Millward Brown, 2017; Wegert, 2016).

Table 1

Production text message prompts by category

FOMO. Fear-of-missing-out	Generation Z	Autonomy
People around Portland are giving us a behind the scene look into how they are getting around town and what they see along the way. Join the fun! Check out http://howweroll.trimet.org.[a]	Be the power behind your transportation! Personalize your trip at Trimet.	Tired of waiting for a ride from your parents? Set your own schedule by walking, biking, or riding the bus.[a]
Spend quality time with your friends by experiencing new things – walk, bike, or ride public transportation together![b]	It's your transportation; go wherever, whenever. Show us where you go in PDX @ridetrimet.	Portland is your city – own it! Step up your navigation skills by finding a new route to your favorite destination.

Do you feel like you miss out from the passenger seat of a car? Try a different mode of transportation like walking or biking.[b]	Find a new hangout spot with TriMet's help, visit http://bit.ly/2pMYwhn and go explore!	Here in Portland, we are Trail Blazers. Try blazing your own trail by biking, walking or bussing around town. Find your route here: https://trimet.org/ride/planner_form.html
Meanwhile in Portland.	Show us what makes your trips with TriMet unique @ridetrimet.	Portland is packed with cool places, but did you know you can get to most of them without relying on your parents for a ride?[a]
Stumble upon Portland's weird culture. Share it. Impress your friends.	Let your voice be heard! Please take a minute and fill out this survey.[b]	Car = commitment & expenses. No car = freedom. Walk, bike, and ride toward independence.[b]

Note. This table shows text of sample messages, which were shown to participants within iPhone skins and included some complimentary images (e.g., group of friends, map of city).

[a] Most positively reviewed messages. [b] Most negatively reviewed messages.

Findings

Preproduction

Focus groups were first transcribed. Then, the three focus group transcripts were uploaded into Transana, a qualitative research analysis software program. The PI then manually coded each transcript with the unit of analysis as an individual's response to a moderator's question. Codes were organized by theory of planned behavior constructs (attitudes, norms, perceived behavioral control, and intentions) and discussion guide themes (i.e., transportation use habits and contexts, car-free mobility barriers and motivations, and communication habits and preferences). Coding was analyzed across the three focus groups with the overall goal being to contextualize, such that more weight was given to responses that occurred more frequently; included words that connoted intensity of feeling (e.g., a strongly held opinion or deeply emotional response); were specific and based on personal experiences (vs. vague or impersonal responses); and received agreement (vs. disagreement) from other participants. Analysis also looked for patterns of co-occurrence among topics (e.g., biking and walking often were discussed simultaneously) (Krueger, 1998). This phase of research sought to answer RQ1 and RQ2.[3]

[3] The quotes presented in the study were edited to remove vocal utterances such as "um."

Attitudes relevant to car-free mobility

Participants generally expressed positive attitudes about walking and biking, although most stated they did not do either regularly. Participants were quick to indicate that walking can be fun and that it was cheaper than any other mobility method. Some participants also mentioned the exercise benefit of walking or biking. Riding light rail (locally referred to as "the Max") also was discussed with a positive attitude by several participants, mostly because it was faster than waiting for their parents to give them a ride. For example, a participant in the first focus group stated, "I like taking the Max because it's faster—cause by the time you get there my momma would probably just be walking out the house." Parents taking a long time or not wanting to give their children rides was a common experience among the participants. For example, a participant in Focus group one stated, "When I try to ask them [his parents] to take me somewhere, they wanna be slow about (it). Then I'm just gonna catch the Max."

Participants expressed negative attitudes about riding the bus or light rail that were steeped in their personal experiences. These negative attitudes often were centered on feelings of uncertainty, anxiety, safety concerns, and sexual harassment that they have personally experienced when riding public transit. Here is a sample of some of the experiences:

> "Men, when they come up to you and they approach you and they're like, and you're grown and you're like, I'm a little girl, or you're just not interested at all. And they don't take no for an answer. That's really scary cause I've been groped and grabbed and it's because I said no. They just don't listen." Focus group one participant

> "Somebody yelling and yelling at other people or a guy with a knife was on the bus once standing right next to the bus driver and he wouldn't go sit down. He'd just stay next to the bus driver, so we had to get off the bus." Focus group three participant.

> "You, if you're on the Max, sometimes you see drunk people." Focus group two participant

> "So I remember when me and my brother…we were getting on the Max from the Lloyd Center and it was super dark cause we had been everywhere that day. Right? And there was this guy, it was I'm telling you. It was three people—me, my brother, some guy. It was just weird. He was looking down at this phone he was like this, and my brother was sitting like this on the other side, and the guy came up to my brother like, 'You got a cigarette?' My brother was like, 'no'…and he came to me…, 'Do you have a cigarette?' I'm 12 years old; why I got a cigarette? Anyways, …where would I have a cigarette, and then he was like, 'I was just asking.' And then he keep trying to talk to me, 'You know you're very pretty.' I was like, I know but I don't need to hear it from you." Focus group one participant

Nearly every participant expressed some negative attitudes about public transit. The main negative associations with walking or biking were that they can be boring or tiring; however, some participants disagreed, maintaining the opposite. A minority of participants said they disliked walking at night due to safety concerns.

Normative beliefs relevant to car-free mobility

Normative beliefs came up less often than attitudes throughout the discussion, although there was some overlap as demonstrated by this string of participant responses from Focus group three:

> Participant 1: "Yeah people only really talk about the bus if it's…
> Participant 2: Bad
> Participant 3: Terrible
> Participant 4: Something weird happens."

The most common normative belief among participants was related to their parents' support or lack of support for them riding transit. It seems like most participants' parents encouraged or mandated that participants ride transit, but sometimes parents also were described as having safety concerns related to transit. For example, one said:

> "My dad—he doesn't like giving me the rides, but like I said before he's really over-protective so he's confusing sometimes cause I ask him for a ride and he's like, 'No, you have to go on the bus' and then when I don't want to go on the bus, no when I want to go on the bus, he's like, 'No, I'm going to give you a ride.'" Focus group two participant

Normative beliefs associated with walking or biking were mostly non-existent from the conversation other than when participants agreed that their friends have similar car-free mobility habits as they do.

Perceived behavioral control beliefs relevant to car-free mobility

Participants had a high degree of confidence in their ability to navigate the transportation system by walking, biking, or riding public transportation. Participants felt they knew most of the information they needed to know to get around without a car and could easily find any information they did not know using their smart phones. For example, a participant in Focus group two stated, "I know where I'm going cause I've been here all my life so…isn't no worry for me." Another participant in Focus group two expressed a similar sentiment, "I use the app sometimes to check when my bus and my Max come but I know where everything takes me now."

The main issue connected to perceived behavioral control was not about being able to travel without a car, but more about being unable to control or predict the type of experience they would have once they choose to ride transit. Participants discussed the measures they take to achieve some degree of control over their safety and experience riding transit. Many of these personal agency concerns co-occurred with negative attitudes expressed about riding transit. For example, a participant in Focus group one stated, "I [try to] block off so nobody sit by me, sit next to me (laughs). I put my foot up and I put my backpack up there. I like no one to sit next to me if I don't know you."

Another issue related to control that came up in two of the focus groups was that a few participants lacked access to a bicycle despite wanting to use that mode of transportation. For the participants who mentioned this issue, their bike was either broken and they did not know how to repair it or it had been stolen.

Intentions relevant to car-free mobility

Nearly every participant stated that they intend to drive rather than use some form of car-free mobility as soon as they are old enough and/or have the money to get a car. For example, a participant in Focus group one stated, "Driving is the best. If I get a car, I'll never ride again." Another participant in Focus group three stated, "I'm fine with doing it now, but when I turn 16, I plan on getting a car; it's just faster." Although still expressing their preference for driving when they are able, several participants cited financial constraints as a reason they may still use car-free mobility in the future. For example, a participant in Focus group one stated, "It depends [on] the distance. Maybe you have [a] little bit of gas; you don't got enough money, so." Participants were asked if they ever thought about walking, biking, or riding transit more than they already do and nearly every participant said "no," with some expressing that they wished they practiced less car-free mobility. For example, a participant in Focus group three stated, "If I can ride it less, I would definitely ride it less."

Channels and settings for car-free mobility messages

Channels and setting commonly used by participants included: smart phones, the TriMet transit tracker app, Snapchat, Instagram, YouTube, broadcast news (usually because their parents are watching it), local radio, and peer-to-peer in-person or texting conversations. When probed about whether they follow any local personalities, government, or organizations on the social media channels they use, the universal answer was "no." There was a wide variety of well-known celebrities or national figures who participants followed, but no local figures.

Participants were asked if they would follow a transit agency on any social media or if they would want to receive text messages from or about local public transportation (including walking and biking paths) and most participants said "no" or provided a lukewarm reception to the idea if any text or alert was relevant to them at the time they received it and if these texts were not frequent. For example, a participant in Focus group two stated, "It depends on how frequently

they text like my phone. If these text messages come like every day, I'm going to start getting irritated and delete the number or something. If it's not that often I'll probably do the text thing." Some participants suggested sending text messages no more often than once per week. Of the minority of participants who said they would even consider opting into text messages from TriMet or another public transportation agency, they only would consider it if they were incentivized by the possibility of winning prizes, such as a free bus pass. The majority of participants said that their parents were the preferred source from whom to get transportation-related communication messages.

Production testing

Written comments from participants associated with each of the 15 sample messages were transcribed into a document that was organized by participant and sample message, resulting in 325 individual reactions with an additional 95 non-reactions (meaning a participant left the reaction space to a message blank). The approach to analyzing the perceived effectiveness reactions involved a quantitative categorization of the reactions because we were looking for specific categories of reactions common to perceived effectiveness measures (e.g., reaction valence, perceived relevance, intentions) (Noar et al., 2018) and from patterns noticed within the reactions. Analysis included several rounds to refine the development of the codebook and attain inter-coder reliability.

The production testing reaction codebook contained five sections. Each section contained two columns. One with terms and their definitions followed by examples of responses related to those terms taken directly from the data. The first section assessed message valence (positive, neutral, and negative). Positive appraisal included enthusiastic and warm/lukewarm responses. Neutral appraisal included non-sequitur, conditional or qualifying, and clarifying responses. Negative appraisal included rejection, criticism, counterarguments, and critical reactions to the persuasive intent. The second section assessed message humor as either funny or not funny. Both appraisals counted explicit statements made by participants. The third section was follow-through assessed as a participant's ability to likely follow through on a message's solicitation or non-likelihood to do so. Intent to complete the request made by the message was the focus of the third section. The fourth section considered whether the content in the message was helpful to participants. Helpfulness provided participants with new and useful information. The fifth section was authenticity/realism in which participants' responses to messages were assessed as either true to their lives (i.e., authentic and realistic) or false/not true to their lives (i.e., not authentic and not realistic).

Each researcher independently coded all reactions in the final coding round. Strong inter-coder reliability was achieved on all but one code (conditionality), which was removed from analysis. Cohen's kappa averaged .90 with all codes above .79. The PI's coding then was used for analysis and reporting. Since coding options were categorical (present/not present), cross-tabulations were used to compare text message reactions for each coding category. Significant

chi-square findings are organized by coding category below. This phase of the research sought to answer RQ3.

Positive reactions

Autonomy messages received the most positive reactions with 55.9% of reactions coded as positive compared to 50.9% of FOMO and 30.1% of Gen Z message reactions being positive, $\chi_2(2, N = 325) = 11.08$, $p < 0.005$. No significant differences emerged among the themes for the type of positive reaction each received. Enthusiastic was the most common positive reaction among all of the themes, which was defined in the codebook as "emphatic approval or general approval." Between 53-67% of all positive reactions were coded as enthusiastic.

Negative reaction

Gen Z messages received the most negative reactions with 63.7% of reactions coded as negative compared to 44.5% of FOMO and 44.1% of Autonomy message reactions being negative, $\chi_2(2, N = 325) = 16.56$, $p < 0.001$. No significant differences emerged among the themes for the type of negative reaction each received. Rejection was the most common negative reaction among all of the themes, which was defined in the codebook as "non-acceptance of message or refusal of message." About 70% of all negative reactions were coded as a rejection, regardless of the theme. Counterargument was the next most common reaction across themes, with 40.0% of Autonomy's, 33.3% of Gen Z's, and 20.4% of FOMO's negative reactions coded as counterarguments (note: there was not a significant chi-square among the counterargument findings). Counterargument was defined in the codebook as "user pushes back on message's points with his/her own counter point. User has a point."

Humor reactions

The messages were intended to be engaging and entertaining to young audiences, which may include being humorous. Autonomy messages (14.7%) were seen as funny more often than Gen Z messages (0.9%) and FOMO messages (11.8%), $\chi_2(2, N = 325) = 14.32$, $p < 0.005$.

Helpfulness reactions

There were no significant differences among the themes for whether a message reaction included comments about helpfulness or unhelpfulness. Very few message reactions discussed helpfulness, with just 29 of the 325 reactions (8.9%) being coded for explicitly referring to the message as helpful or unhelpful.

Likelihood of following through reactions

There were no significant differences among the themes for whether a message reaction included comments about likelihood of following through with the message. Very few message reactions discussed likelihood with only 23 of the 325 reactions (7.1%) coded for indicating any degree of likelihood or unlikelihood of following through with the message request or recommendations.

Personal relevance reaction

Autonomy theme message reactions included the most discussion of personal relevance with 18.6% of messages seen as personally relevant, whereas only 10.9% of FOMO and 3.5% of Gen Z messages elicited relevance reactions, $\chi_2(2, N = 325) = 14.32$, $p < 0.005$. There was no significant difference among the themes about reactions that indicated a message was not relevant or inauthentic with between 10-13% of all messages eliciting a comment that indicated the message seemed inauthentic or not personally relevant to a participant.

Individual message reactions

Although message reactions were primarily analyzed by theme because it is more helpful to understand our target public's reaction to a theme on which future message iterations may vary, reactions also were analyzed by individual message in the hope of gaining additional insights about the types of pro-transportation system messages that connect with youth.

Overall, the three messages from the 15 total messages that received a consistent amount of positive feedback are featured in Table 1. These messages were likely to elicit comments that described them in positive terms, indicated that they were in some way personally relevant or authentic to the participant, and funny. Four messages of the 15 total messages featured in Table 1 stood out as receiving consistent negative feedback, such as comments that rejected and counterargued with the message and indicated that the message was not helpful or relevant to their lives.

Discussion

In a systematic review of 63 North American studies on youth's active (e.g., walking, biking) modes of getting to and from school the authors noted that only 16% of these studies included youth voices and called for more youth mobility research to include youth participants (Rothman et al., 2018). The current study answers this call and encourages more public interest communications research with youth in service of promoting car-fee mobility.

Results from the preproduction and production testing research provided several key insights and recommendations for car-free mobility message development and dissemination targeting youth. In comparing this study's findings with one of the only other studies looking at teen

transit messaging (Cain, 2006), there are important areas of similarities and dissimilarities among the findings. For example, both this study and Cain's study found that parents are a key influencer among this target public on this issue. Similar to Cain's study, this research found support for autonomy appeals that encourage teens to be less reliant on their parents for transportation. Another similarity among the studies' findings was teens' beliefs that public transit is more economical, even if it is slower or less reliable. One notable difference in the current research findings from the findings in Cain's Florida study of teens was that teens rarely, if ever, expressed concerns about negative self-image associated with transit. Teens in our study did not seem to feel stigmatized when using transit and expressed that it was normative behavior among their peer groups. Cain's finding that recommended highlighting the safety benefits of transit compared to the responsibility of driving are likely to be seen as untrue and inauthentic to youth in this study; one of the main and deeply engrained narratives around their transit experiences is how unsafe and unpredictable it is. Related to Cain's third messaging recommendation about highlighting the high cost of car travel and the better uses of their money to save for things teens care about (e.g., clothes), may ring true with youth, but based on our participants—it is a reluctant truth that is unlikely to change youth driving. Participants clearly stated that money was a barrier to car use, but they still felt driving was worth it.

Theory-based perceptions and messaging recommendations

In applying the theory of planned behavior, it is important to understand youth attitudes, norms, perceived behavioral control, and intentions related to car-free mobility. As strategic campaign planners, public interest communicators benefit from knowing which theoretical constructs may be hindering compliance and which may be already well aligned with strategic goals. The current study found that youth held both positive and negative attitudes about car-free mobility that largely were based on their personal prior experiences. This finding suggests that public interest communications in this area may need to work with transportation system planners to improve youth experiences to improve future attitudes. Youth expressed that although there was little stigma associated with car-free mobility, normative beliefs were nonetheless focused on sharing negative experiences or stories. Public interest communicators should consider ways to encourage positive normative experience sharing, which should be more likely if the recommendation to work with transportation system planners to improve experiences is enacted.

One theory of planned behavior construct that was already well-aligned with car-free mobility behaviors was that youth mostly felt capable of understanding how to access car-free mobility. On the other hand, youth felt less control over the experience they might have when engaging in car-free mobility and this feeling appeared to be associated with less desire to do so. Increasing youth agency toward car-free mobility also may be improved with system experience improvements. This study found that youth without the ability to drive themselves had positive car-free mobility intentions, but also had future intentions to eliminate car-free mobility as part of their transportation mix as soon as they are able to drive themselves. More research is needed

with youth in transition to driving age to determine what may inoculate youth against the intention to abandon car-free mobility or at least create an expectation that car-free mobility would continue to be part of their mobility mix once they are able to drive.

Messages promoting car-free mobility may consider different themes or appeals based on the type of car-free mobility being promoted. For example, teens are more likely to see messages associating walking or biking with leisure or friendship as authentic to their own attitudes and experiences with those forms of car-free mobility than their experiences with riding the bus or light rail. Communicators promoting light rail may want to tap into existing positive associations about how light rail is easy to use, fast, and allows for independence from their parents in their messages. Due to strongly held negative associations with the bus and light rail, when considering safety and negative interactions with adult passengers, transportation officials should consider system changes and related messages that provide teens with more agency to avoid and report those negative experiences. Messages touting the safety of the transit system are likely to be seen as inauthentic to the teens' experiences, and thus rejected. These safety-focused messages are likely to need to demonstrate that tangible changes have been made to the transit system and/or new information about what to do in situations where teens feel uncomfortable is seen as relevant and useful to participants.

Normative beliefs predict behavior and this research found that most of the youth participants had normative beliefs that encouraged current car-free mobility practices. Messages could reliably feature normative messaging to further entrench this belief, especially in regard to parental support for car-free mobility. Unfortunately, nearly all the youth in our study had future intentions of not practicing car-free mobility once they were able to drive. Communicators should consider including people who are 16-18 years old and actively choose car-free mobility in messages. These older referents should be people with whom youth are likely to identify and want to be like. The idea is to establish choosing to take the bus (or other forms of car-free mobility) as a continued norm past the age of 15 years old. Further research should explore the viability of incorporating the positive parental norms related to car-free mobility for older teens.

Similar to the Cain (2006) study, messaging highlighting teens' abilities to be autonomous and exercise independence from their parents by choosing car-free mobility instead of getting rides is likely to be well received by youth. Humor could be used to remind teens of a common experience of annoyance at waiting for their parents to give them rides.

Messaging that seemed to fail during production testing focused on Gen Z themes, such as empowerment and providing feedback to decision makers. Additionally, individual messages that highlighted negative aspects about driving, such as cost, were not well received, with the exception of highlighting the hassle of getting rides from parents being positively rated. Upbeat messages and those that featured local references or information were generally well received.

Distribution and source recommendations

Based on feedback from participants, parents seem to be the best source for distribution and endorsement of any car-free mobility messages. It seems unlikely that many teens would follow transportation organizations on social media or opt-in to receive text messages. Despite initial testing, this study does not recommend engaging in a text messaging campaign directly to teens. Any messaging aimed at teens is likely going to have to reach parents first, who would then pass the message to their children. Since parents were not part of this study's research participants, future studies should test the kinds of messages that are effective with parents, how to best motivate parents to pass messages on, and where to reach parents. However, one channel was mentioned as often attended to by parents and teens together: local broadcast news.

Outside of distribution through parents, teens are likely to be reached through their use of local transit apps, billboards or posters near car-free mobility area (e.g., bus stops), and advertisements on youth-oriented YouTube channels, youth-oriented local radio, and Instagram. Although this study ultimately recommended abandoning the initial idea to target through text messaging, the results of the production testing still provide important information about the content of youth-targeted messages that could be distributed on other channels (e.g., posters, social media advertisements). Since production testing in this study was conducted with the assumption that text messaging could be the distribution channel, further production testing is needed to adapt the results and recommendations to other channels (e.g., social media advertisements, billboards) that may target youth directly to promote car-free mobility.

Limitations

An important limitation of this study is that the results may not be generalizable to all youth as non-probability sampling was used and focused only on one city. Teens who volunteered to participate may have been those who have more of a personal stake in transportation issues. The sample racial and ethnic demographics are not consistent with the Portland's demographics, such that this sample is 79% African American compared to census data that indicates the site's population is 70% White and 6% African American (U.S. Census Bureau, 2018). Future research should expand to more youth and parents in more locations. Another limitation is that all study participants were from a large city with supportive transit policies and access. For example, the study city offers a free transit pass to all public high school students. More research is needed to understand how findings may generalize to other geographies, such as those that are rural or lack sufficient transportation infrastructure.

An important limitation is that because the preproduction and production testing research was conducted within the same focus groups, the research team was unable to adapt the distribution channel (text messaging) during the production testing stage. However, the reactions to content framed with a photo of a phone are likely to apply to other delivery modes (e.g.,

posters, social media advertisements) as none of the reactions specifically mentioned delivery mode as a factor. What participants found personally relevant, for example, did not seem predicated on delivery mode (text messaging), but rather was connected to the message graphics and wording, which could be adapted to other channels.

Conclusion

Key insights found mixed attitudes related to car-free mobility that were especially dependent on type of mobility and often based on the youth's first-hand experiences. Youth mostly held normative and perceived behavioral control beliefs supportive of car-free mobility, such as the belief that most of their friends and parents support car-free mobility and the belief that it is easy to ride transit. A dominant non-supportive belief was youth's lack of agency related to safety on public transit. Youth reported positive intentions to practice car-free mobility until they were old enough and could afford to drive. A variety of channels and settings, such as YouTube advertisements, may be effective at reaching teens, but this study concluded that teens are unlikely to subscribe and engage with text messages sent to their mobile devices. Youth responded positively to appeals to autonomy and generally disliked most of the Generation Z targeted messaging. This research also contributes to the growing field of public interest communications by demonstrating an example of formative research in service to public interest communications.

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A Phenomenological Study Exploring the Meaning of Global Engagement Among Former Participants of a Backpack Journalism Program

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Abstract

This phenomenological qualitative study explores the meaning of global engagement among former students who participated in a Backpack Journalism course from 2010 through 2016. Through semi-structured interviews, the researcher explored the meaning of global engagement as it relates to global education, experiential/project-based learning, and public interest communications. The resulting participant themes (community, unexpected/eye opening, discomfort, making a difference, and reflection/discernment) will further inform classroom instruction for upcoming Backpack Journalism courses and may serve as a guide for global educational experiences and public interest communications in other settings. Future research also is explored.

Introduction

Global engagement expands a student's worldview. As members of a global community, college students increasingly must recognize the role they play in a diverse world (Killick, 2013). As American corporations continue to do business internationally, their success depends on the ability of their employees to understand the communities and traditions in which they operate (Hofstede & Hofstede, 2005). Providing diverse cultural experiences is particularly relevant in the United States where students entering American colleges and universities come from a variety of backgrounds and traditions (Bista & Saleh, 2014).

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The following research explores the meaning of global engagement through an experiential learning program called Backpack Journalism. Faculty developed the Backpack Journalism program a decade ago at a Catholic, Jesuit university in the Midwest. Since 2010, more than 60 students have participated in the program (Creighton University, n.d.). The program typically is offered every other summer. Students earn six credit hours in theology and journalism while traveling throughout the world to gain experiences much different from their own (Creighton University, n.d.). Students learn to shoot and edit video. They also engage in group discussions and write blogs that allow them to reflect on their understandings. The culminating activity is a mini documentary film that highlights marginalized populations or places. The films are screened at local and national film festivals; some of the documentaries have won awards (Creighton University, n.d.).

The Backpack Journalism program has opened students' eyes to challenges in other regions of the world. Whether it is a glimpse at life in the slums of the Dominican Republic, a look at efforts by Catholic Church leaders to rebuild the lives of Northern Ugandans following a civil war, or an examination of the plight of undocumented immigrants in the Mexican border community of Nogales, the experiences resonate with students (Creighton University, n.d.). Students in the Backpack Journalism program have traveled to the Dominican Republic, Uganda, rural Alaska, and the Arizona/Mexico border. The interdisciplinary program stretches students' comfort zones and forces them to come face to face with issues such as immigration, refugee populations, and climate change.

Purpose of the study

The documentary filmmaking program allows students to reflect deeply on the experiences of others and provides them an opportunity to engage with other cultures. Yet, to date, no qualitative, phenomenological study has been conducted to identify the themes or constructs of global engagement aligned with the students who have participated in this interdisciplinary program. The researcher seeks to understand the meaning of global engagement as it relates to the Backpack Journalism program and to uncover the shared ideas, feelings, and experiences of the participants of this program.

Literature review

Experiential learning

In his discussion of experiential learning theory (ELT), Kolb (1984) suggested four forms of experiential learning—four skills or abilities learners needed in order for the learning to be effective, including concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE).

> That is, they must be able to involve themselves fully, openly, and without bias in new experiences (CE). They must be able to reflect on and observe their experiences from many perspectives (RO). They must be able to create concepts that integrate their observations into logically sound theories (AC), and they must be able to use these theories to make decisions and solve problems (AE) (Kolb, 1984, p. 30).

Experiential learning opportunities pair well with the desire of college students to engage in community or service activities that extend beyond the classroom (Brower, 2011). Students who are engaged in real-world service learning opportunities often express a greater degree of commitment to the learning process (Breunig, 2017). Estes (2004) suggested the way the instructor directs the learning may unconsciously promote a teacher-centered model. Experiential education, by its very nature, promotes student-centered learning. "Student autonomy, critical thinking and self-reliance can be encouraged throughout the action and reflection cycle" (Estes, 2004, p. 151). Through self-reflection students gain deeper insights into themselves and others (Breunig, 2014; Kolb, 1984).

The Scholarship of Teaching and Learning (SoTL) research aligns well with the development of experiential learning opportunities. Educators must consider both the theoretical as well as the practical for effective instruction (Boyer, 1990). Boyer (1990) further suggested academics must embrace scholarship in four forms—discovery, integration, application, and teaching (Boyer, 1990). The Backpack Journalism program touches all four aspects of this process. Students discover the world around them through the interdisciplinary program. Integrating their knowledge and skills, they create a documentary that provides perspective on the experiences of people at the margins. Through this process, these student documentary filmmakers help to educate their audiences about the lives of their subjects.

Global engagement

Dodd (2018) observed, "Globalization and pluralization have changed the environment and expectations for businesses in society" (p. 231). As the world grows more connected, students increasingly gain opportunities to learn in a global environment and engage with other cultures, whether through service learning activities, study-abroad, or experiential learning activities. American colleges and universities are increasing experiences for global engagement for students. These global opportunities are widely available in other parts of the world and with learners of all ages (Bista & Saleh, 2014). Through this engagement, students grow more confident and develop a greater degree of understanding about contexts or cultures that are quite different from their own (Alexis et al., 2017). Alexis et al. (2017) noted students who were participating in a study abroad program worked to adapt and embrace the cultural traditions of their host countries. Colleges and universities are even developing globally centered programs for those students who are unable to participate in study-abroad opportunities due to time or financial limitations (Feast et al., 2011).

As the international economic landscape evolves for companies, recognizing a diverse cultural landscape is critical. For corporations, developing an understanding of a host country's cultures and traditions can mitigate political, social, or economic challenges they might otherwise face (Hofstede & Hofstede, 2005; Taylor, 2000). Often hands-on learning opportunities in an international setting provide students with eye-opening experiences they could not obtain through mere classroom instruction (Harper, 2018; Johnson & Howell, 2017). Yet, more could be done to provide global education, not only for students, but also educational opportunities for faculty training these students (O'Meara et al., 2018).

Public interest communications

Fessmann (2016) defined public interest communications (PIC) as "planned strategic communication campaigns with the main goal of achieving significant and sustained positive behavioural (sic) change on a public interest issue that transcends the particular interests of any single organisation (sic)" (p. 14). PIC is an evolving field (Brunner, 2017; Christiano, 2017; Fessmann, 2017). PIC can be present in an array of academic disciplines (Ciszek, 2018; Downes, 2017; Fessmann, 2017).

Raising public awareness and asking an audience to reflect critically on social issues have long been the tasks of journalists and the organizations for which they work. Community, civic, or solutions-based journalism remains a priority for some news outlets (Solutions Journalism Network, n.d.). Yet, the changing financial landscape for news organizations is forcing many of these institutions to do more with less. Brunner (2017) observed, as newsroom staffing shrinks and with increases in partisan and fake news, PIC holds promise to expand community engagement and to increase dialogue on social or civic issues.

To that end, Christiano (2017) noted the most effective PIC campaigns are visual and value-laden. They use stories, emotions, and distinct calls to action. PIC campaigns drive engagement to create long-lasting, meaningful change (Christiano & Niemand, 2017). Ultimately, effective PIC campaigns have the capacity to bring about positive, impactful social change. PIC "encourages collectives to band together and enact visions of social change that focus on the advancement of all of humanity" (Seyranian, 2017, p. 59).

Method

To delve more deeply on this topic, the researcher conducted a qualitative phenomenological study to explore the meaning of global engagement for participants of the Backpack Journalism program.[1] She arranged semi-structured interviews with former students who participated in one

[1]Author's note: The author received funding for this study through the Dr. George F. Haddix President's Faculty Research Fund at Creighton University. The author wishes to thank Backpack Journalism faculty advisor Dr. Carol Zuegner and the 10 participants who gave their time for this study.

of five Backpack Journalism cohorts from 2010-2016. The researcher worked with one of the program's faculty advisors to obtain the names of students for possible participation. Creswell (2007) asserted by its very nature, the research of qualitative scholars is value-laden and subjective. The research design allows scholars to delve more deeply into understanding or describing an issue. Unlike quantitative research, which focuses on objective data collection, qualitative phenomenology draws on the subjective descriptions of participant experiences (Polkinghorne, 1989). A phenomenological design allows the researcher to understand the complex nature of a particular phenomenon and to delve deeply into the shared experiences of numerous individuals (Creswell, 2007; Marshall & Rossman, 2006; Moustakas, 1994).

Role of the researcher

Given the subjective nature of qualitative design, the researcher came to the research with her own preconceived notions, beliefs, and biases. Prior to beginning the study, the researcher engaged in bracketing or Epoche, clearing her mind of these biases, and allowing herself to be open and receptive to understanding the ideas of the research participants (Moustakas, 1994). The process of bracketing enabled the researcher to reflect more carefully on the words of participants (Gearing, 2004). Storytelling is also an important characteristic of qualitative inquiry. Wolcott (1994) noted, "Qualitative researchers of analytical or interpretive bent are nonetheless expected to ground their reflections in observed experience" (p. 17).

The researcher received approval for her study from her university's institutional review board (IRB) prior to conducting participant interviews. Participants were assigned a pseudonym, to allow for confidentiality. The researcher made every attempt to assure the confidentiality of participants, although some may be identifiable based on the artifacts/mementos or research narrative. Study participants were informed of this as part of the study protocol. The researcher also asked the faculty advisor and the transcriptionist to sign a confidentiality agreement.

Participants

The number of students who participated in each Backpack Journalism cohort ranged from nine to 15. For this study, the researcher used a purposeful sample, interviewing 10 former students who were participants in one of the five Backpack Journalism cohorts in 2010 (Dominican Republic), 2011 (Uganda), 2012 (Uganda), 2014 (Alaska), and 2016 (Mexico/Arizona). Purposeful sampling is beneficial as it focuses on those individuals who will provide rich information about the proposed topic (Patton, 2002). "Subjects are chosen who are able to function as *informants* by providing rich descriptions of the experience being investigated" (Polkinghorne, 1989, p. 47). The researcher selected two participants from each cohort to provide insights from each of the Backpack Journalism experiences. In each cohort, the researcher interviewed one participant who majored in journalism and one participant who

majored in another academic discipline. Since women made up the majority of participants in each cohort, the researcher interviewed seven women and three men for this study.

Data collection

In addition to the interviews, the researcher reviewed three additional forms of data. The researcher asked interview participants to share or describe artifacts or mementos (photographs/souvenirs, etc.) from their Backpack Journalism experience and explain the meaning of these objects to them. The researcher reviewed the blogs the interview participants wrote as students to see how the recollection of their experiences compared to what they had previously written. The researcher also made personal observations by examining the documentary films to uncover any insights related to the phenomenon of global engagement.

The researcher conducted interviews with all the participants and audiotaped them. The interviews took place in person and over the telephone. The interviews lasted between 39 minutes to more than one hour. After the interviews were transcribed, the researcher read the transcripts to reacquaint herself with the data. The researcher coded the transcripts using the HyperRESEARCH software program. When possible, the researcher looked for *in vivo codes* that used the words of participants (Corbin & Strauss, 2008; Creswell, 2007). The researcher reviewed the themes and clustered the codes into the final five themes. Some of the codes served as sub-themes for the final five themes.

Validation is an important component of the research process (Newman, 2006). The researcher conducted several validation strategies as part of this study, including thick-rich descriptions, member checking, and triangulation of interviews, visual data, and written data (Newman, 2006). As part of the member checking process, the researcher sent interview participants one or two of the written passages to verify she was representing their thoughts accurately.

Findings

Five themes emerged from the study: community, unexpected/eye opening, discomfort, making a difference, and reflection/discernment.

Community

Students who participated in the Backpack Journalism program described deep connections they had with other students in their cohort. Whether it was through written blogs, nightly reflections, or the collaboration on the documentary film project, participants grew close to one another and established a community. Some developed lifelong friendships as a result of the experience.

Being in an unfamiliar place, students also took comfort in being part of a community of students who were sharing the same experiences. Heather said her cohort bonded in many ways as they developed a film highlighting the effects of climate change in rural Alaska. “We got along so well. And that’s really integral to the experience, a closeness that I don’t think I necessarily anticipated because you never know with a group of students what the personalities [will be]…anything can happen. But it just was so…perfect.”

As part of the Backpack Journalism course, the students spent time together prior to departing on their trips. They would spend several weeks together on location and then return to the campus to write and edit the documentary. Mia remembers the nightly reflections in Alaska when they would gather to discuss their experiences. “We became very, very close and trusting with one another.” Shannon echoes similar insights as she remembered her trip to Uganda. “I think that the experience with us, (laugh) creating random really deep emotions, and that can go from feeling extremely bonded with your team, feeling very proud of your product, you know, you’re very …happy and lucky to be experiencing what you’re experiencing.” The theme of community was present in the blogs the students produced as part of their Backpack Journalism program. Photos of smiling students, arm in arm are scattered throughout the blogs with captions such as, “our wonderful family” or “couldn’t have asked for a better group.” Students appreciated the friendships they made during the filmmaking experience.

Students, some of whom have majors outside the journalism program also found community among other students willing to teach and support them. The participants felt the university where they attended encouraged students to form as a community. That notion of community was highlighted further on the Backpack Journalism trip when diverse groups of students came together. Erin suggested the community developed as a result of the students spending so much time living and working together. “Our lives were intertwined by this documentary, and so I feel that, in some way, makes you a community.”

Unexpected/eye opening

The experience of documenting life in a developing country or a rural section of the United States proved eye opening to students who took part in their Backpack Journalism course. For these filmmakers, it often brought them face to face with an unfamiliar culture. Michael offered, “It was my first global engagement experience.” Shannon added, “Backpack Journalism…was kind of my first exposure to a world outside of my own. So that helped me.” Steve said his time in the Dominican Republic altered how he looked at the world. Although students in his cohort discussed global and cultural issues prior to leaving the United States, experiencing the culture firsthand provided unexpected experiences. “I thought I probably knew everything. But it was shocking to me and kind of gave me…it was a shock to my system.” Maddie expressed similar feelings as she recalled her Backpack Journalism trip while filming at the U.S./Mexico border, "It was definitely a shock because I had never seen such resiliency and compassion in a population that had endured significant hardship." Brooke and John, students who were part of

the first Backpack Journalism trip to Uganda, vividly recalled an experience that highlighted the desperation of people living in a refugee camp. During the trip, the group of students tried to offer small gifts to people living in the camp, such as toys or t-shirts. The students were swarmed by a group of the refugees and quickly had to leave the area because of the chaos that ensued. "It was a mass of people desperately wanting these things that we had brought," said Brooke. For John, the experienced opened his eyes to the challenges of poverty throughout the world and "how many people are without health care, without a job and without, you know, meal security…So that it helped me kind of bring that whole thing into perspective."

For Gina, the Backpack Journalism experience was eye opening by making her more mindful of what she had as an American college student. At a market in Uganda, Gina was approached by a vendor, a woman who noticed she was wearing a t-shirt with her university's logo. She said the woman hugged her and expressed excitement over the fact Gina was receiving a college education. "It's always grounding to hear the parts of your life that you think are normal that are actually very much a privilege to have."

Transformative

The construct, *transformative*, emerged as a sub-theme for unexpected/eye opening. The revelations about other people and cultures provided transformative experiences to some who participated in the Backpack Journalism program. Gina observed, "It was a very…trying to think of the word I'm looking for…profound experience." Steve offered, "I would not be the person I am today without some aspect of this. I'm not trying to…oversell it. I just think that it really was a pivotal point in my college career, and it…it opened my eyes…to other things out there." Michael described a transformative moment after he received a wooden cross, hand-painted by a man he met during his trip to the Arizona/Mexico border. Michael suggested, "It's so easy to forget all these profound experiences that you have, especially in times that you encounter God, you know… my cross is a nice reminder…for me of that experience. And, I can picture the room; I can picture his face; I can picture him handing it to me. And it makes it all ***real*** again." Brooke suggested, "I would say that trip… shaped me and the way that I experience the world. Probably shaped the way that I travel." Brooke said the Backpack Journalism experience changed her career path. John also indicated his Backpack Journalism experience was a significant moment in his life:

> In the seven years, I think it's seven years since I've been there, I haven't really found a better word other than life-changing. It's not like I completely changed. My life trajectory didn't really change that much from it, but it changed the way I think about things.

Discomfort

The process of traveling to an unfamiliar setting created discomfort among participants of the Backpack Journalism program. Whether it was unfamiliar language or customs, students had to embrace the unfamiliar setting as they tried to tell their stories. Although Steve said he was always the type of person who enjoyed new experiences, participating in the Backpack Journalism project took him out of his comfort zone. "I was always a little bit nervous because when you're in a place that is not your home, you tend to have your head on a swivel…you just don't know what's coming and you're always on."

Shannon experienced feelings of being overwhelmed on her trip to Uganda, "I was prepared, I think, in all the ways I could have been, but whenever you go somewhere that's so different from the environment you're accustomed to… there's just a lot to take in." Gina shared similar insights:

> I remember being very overwhelmed when we first got into Kampala. I mean, beyond the fact that there's…more people and they drive on the other side of the road and speak different languages. It was, it was a huge shock, because there's not perfect infrastructure.

Some of the students participating on the Backpack Journalism documentary came from disciplines outside of journalism. So, the process of making a documentary was uncomfortable in and of itself. Erin said, "Another thing that pushed me outside of my comfort zone was just doing this Backpack Journalism program and not being prepared at all. I mean, I am the type of person who likes to be prepared for things… I didn't even know how to run a camera and I didn't know any…journalism terms or what B-roll was." Mia observed, "I came into this with no background whatsoever in photography and videography or journalism. So that, in and of itself, was an entirely kind of a new subculture to me, having to learn how to take a photograph, how to take quality video and everything." Gina added, "I wasn't a journalism major. I was not producing what I thought…was up to what they needed [in terms] of quality of film. I thought it was affecting this documentary."

Interview participants also recalled specific, vivid moments on their trips when discomfort took hold. For John, it came when his cohort traveled to a refugee camp: "It was…full of people…who were…desperately poor; they had nothing…it was…heartbreaking to hear their stories…some of them…had family members who were taken from them…there was a massacre there…just a few years prior." In one blog, a student shared the discomfort she experienced filming in the slums. She wrote about the foul-smelling raw sewage that ran through a canal in the center of the city and described seeing bags of garbage and rats near the water. For Heather, discomfort happened during a visit to a rural Alaskan community: It was "very jarring…to be in this village where they're basically living in shacks. It was really startling. I hadn't seen anything like that before in my life." During Gina's Backpack Journalism trip, a family member of one of the other students unexpectedly died. Gina's classmate immediately returned to the United States. "It was already a very hard day," Gina said. "And I didn't feel like feeling things. You

know? I didn't feel like having to sit here and shove cameras in people's faces. I was like, 'I just want to be a human around other humans today.'" Yet, the experiences of discomfort proved empowering. During her interview, Erin described a memento she brought back from her time in the Dominican Republic, a hand painted picture created by someone who lived near the beach. "It…reminds me always of that trip. And… that moment in time that I decided to do something out of my comfort zone and it turned out…so amazing."

Making a difference

Making a difference by bearing witness through their documentary films emerged as a strong theme for participants. The five documentary films provide unique revelations about a variety of cultures and human experiences. They all tell the stories of people in their everyday lives. As Maddie explained, "Bearing witness is bearing the truth of others." Students recognized the work they were doing on the documentary earned them journalism and theology class credit. However, as students interviewed documentary participants and learned more about their lives, they were determined to do right by them and to tell their stories in a meaningful way. Erin explained, "I think in the end, everybody came out feeling the same way…caring so much about this community and wanting to make a difference with this video." Michael described it in another way, "Our work there was to capture…where we had encountered God…throughout that experience, and…show the story." In his blog, one student described the emotions he experienced during a stressful day of shooting video. Although he felt he was intruding on the lives of people who were living in challenging circumstances, he realized that through the video, he would be able to tell their stories more powerfully.

Yet, the fact these students were not engaged in traditional service learning activities was not lost on them. John observed, "We weren't there as a mission trip. We weren't there…as health care workers. We were there basically to interview people." Mia noted, "There's a big difference between helping somebody and being of service to somebody." Mia said during her time at the university and specifically during her Backpack Journalism trip in rural Alaska, she recognized her purpose was not to swoop in and solve problems, but to listen to and share the insights of the local community with others.

Making a difference today

The construct, *making a difference today*, emerged as a subtheme of making a difference. Work on the documentary has had a long-term impact for some. Several participants expressed a commitment to make a difference in their lives today. The Backpack Journalism class contributed to that desire. As part of the documentary on rural Alaska, Heather and her cohort focused on the challenges of climate change on the native Yupik population. Years following this experience, Heather shared the documentary with a co-worker who was skeptical of climate change: "Just having him watch it and think about it, I think can make a difference…I just continue to always talk about my experience with people." Erin went on to work in a field where

she has the ability to support underserved populations. She believes helping others was always her calling: "And definitely, the Backpack Journalism course was a part of that. But, I think it was always something I knew I wanted to do." Shannon agrees, "I still want to make an impact…I think it's really influenced my motivation where…I want to do something that sheds light on issues that other people aren't thinking about."

Reflection/discernment

Kolvenbach (2000) suggested, "Students, in the course of their formation, must let the gritty reality of this world into their lives, so they can learn to feel it, think about it critically, respond to its suffering and engage it constructively" (p. 8). In a Christian or Jesuit context, discernment is a process of reflection whereby an individual considers an array of possible options or choices (Traub, 1998). The Backpack Journalism program provided numerous opportunities for reflection and discernment.

Gina said she came away from the experience feeling more grounded: "I definitely started asking the question: 'Do you need this?' which I had never asked before, I mean, I was a 20-year-old girl, you know. And so, I definitely started asking that." Brooke expressed a similar sentiment, "I think that experience certainly helped me to travel more intentionally and to approach people from other countries and different backgrounds…with more compassion."

Heather agreed the experience made her more intentional. As she said, "I've always struggled to be more vulnerable, so even talking in reflection when we were there was really challenging. So, when I did open up…I always cried (laugh)." In her blog, one student used adjectives such as "spectacular," "inspiring," and "profound" to describe her Backpack Journalism experience.

For Michael, the experience provided him with new perspectives on which to reflect:

> When you sit across from someone and listen to what they're telling you, it is different than reading about it in the newspaper because that's reported through someone else's lens. So, encountering the people face to face was huge. And, you know, I…realize that it's so hard to come out with a simple stance on such a complex issue because there are so many different people who are involved and there are so many factors that are involved.

For John, one of the mementos he took from the trip was a photo taken by one of the faculty members who accompanied the student on the trip. To John, the photo represented the juxtaposition of his experience in Uganda—the beauty of the country and its people, but also the extreme poverty and, at times, desolation of some of its citizens. Gina reflected on a video she took in Uganda as they were leaving a rural village and the crowd of schoolchildren were waving good-bye. "The video is… from…inside the bus and we were leaving…that rural village…It's a very short clip, but I find myself watching that at least once a month…It makes me smile."

During the trip, students participated in nightly group reflections. They also wrote blogs about their experiences. Wright and Lundy (2012) noted blogging can be an effective way for

students to reflect on service learning experiences and apply those reflections to classroom experiences.

Discussion

Participants of this study suggested the meaning of global engagement consisted of the following themes: community, unexpected/eye opening, discomfort, making a difference, and reflection/discernment. A phenomenological study culminates with the researcher formulating a composite textural and structural description of participants, then merging those descriptions to form the essence of the phenomenon (Creswell, 2007; Moustakas, 1994).

Textural description

Creswell (2007) asserted textural description provides insights into what the participants experienced. Participants in the Backpack Journalism program experienced global engagement in a variety of ways. One of those ways was through the community they established, either within the group or the cultural connections they made with the people who they met along the way. At times, this engagement was uncomfortable and unexpected. Yet, they often leaned into the discomfort and discovered things about themselves, their classmates, and the people they interviewed.

These former students also experienced global engagement through their desire to make a difference with their documentary and to bear witnesses thoughtfully to their subjects' stories and struggles. Through reflection and discernment, the students experienced humility, gratitude, and spiritual insights.

Structural description

Structural description involves a discussion of how the phenomenon happened (Creswell, 2007). Some experienced global engagement as relatively new travelers in an international setting. Participants experienced global engagement through their work as documentary filmmakers, but also through the everyday interactions they had with other people, whether classmates, instructors, or people who lived in underserved or remote locations. The phenomenon presented itself, not only when they were engaged directly with interview subjects, but also in those quiet moments in discussions with classmates at the end of a day or through written reflections with their blog assignments.

Essence

The essence of global engagement consists of both the structural and textural descriptions of participants; it provides the culmination of a phenomenology (Creswell, 2007). For former students who were participants in one of the Backpack Journalism programs, the essence of global engagement involves *mindfulness*—being fully present or in the moment. A description from Steve highlighted the essence of the phenomenon of global engagement for participants of the Backpack Journalism program:

> People would just sit and…watch the world go by. And there's a sort of peace and happiness that comes with that…you would just sit with people. You wouldn't necessarily need to talk, but you could just sit and be. And so, experiencing life that way, I think there is a richness or a wealth to being able to understand and to appreciate life for what it is and not for just the desire for more.

Unencumbered by digital distractions or familiar landscapes, and through constant verbal and written reflection, the Backpack Journalism program required students to be cognizant of their physical, spiritual, intellectual, and emotional states. For these participants, global engagement made them more conscious of the purpose and brought them closer to an understanding of the connection they have as members of the human race. As they found ways to connect with others whose cultures and tradition are different from their own, students understood the importance of engaging in a global landscape.

PIC presents an exciting opportunity for student engagement, not through professional public relations campaigns, but through real-world learning opportunities outside the classroom. Given the interdisciplinary connections available in academia and hands-on experiences available in the field, PIC campaigns should be a consideration for faculty who teach journalism or mass communication courses. PIC has the potential to span numerous communication disciplines, "When public relations practitioners and academics allow…for all voices to be heard, they are working in the public interest" (Brunner, 2017, p. 51). PIC may be particularly appealing to college students, in part, because young adults (Millennials and Gen Z) embrace social causes and are comfortable using technology to advance those causes (Fessmann, 2016). As Fessmann (2016) argued, "PIC aims at offering students with social activist interests an alternative, more focused route of developing communication professionals than the usually heavily corporate and agency focused public relations programs" (p. 20). Documentary films, such as the ones produced through the Backpack Journalism program, provide students one avenue for education and advocacy on a variety of social issues.

Limitations and future research

Qualitative research is not generalizable to other populations. Nonetheless, the themes derived from the study will provide valuable insights to course instructors on the ways in which students

experienced global engagement as part of the Backpack Journalism program. These insights can help instructors further refine curriculum and develop new assessments for future Backpack Journalism courses. Themes that emerge from the study also can be used to develop a quantitative instrument. Although not part of this research project, the development of a global engagement tool/instrument based on the themes from this research could be used in courses where instructors wish to create or assess class content related to global education. A quantitative instrument also could assess advocacy or engagement constructs that would be salient to a PIC campaign.

The Backpack Journalism program has unique components not found in traditional service learning or study abroad programs. As a result, would the themes from other global engagement experiences be similar? Future research may look at different cohorts of students who experience global engagement in other ways to determine similarities and differences. Additionally, the participants who were part of this study received their education at a Catholic, Jesuit university. Would themes such as reflection/discernment emerge for global engagement experiences at secular institutions?

Conclusion

Boyer (1990) posited, "If the nation's colleges and universities cannot help students see beyond themselves and better understand the interdependent nature of our world, each new generation's capacity to live responsibly will be dangerously diminished" (p. 77). The Backpack Journalism program provides students with advocacy opportunities and helps them develop greater empathy, global connections, and an appreciation for diverse cultures.

In similar ways, PIC efforts drive meaningful change (Christiano, 2017; Christiano & Niemand, 2017). PIC can be interdisciplinary and draw from a range of fields, including public relations, psychology, and political science (Ciszek, 2018; Downes, 2017; Fessmann, 2017). The Backpack Journalism program itself does not meet the literal definition of PIC. It is not a strategic communications campaign, planned and executed through the lens of a professional communications practitioner. Yet, it does meet the definition in a philosophical sense, as the production of these documentaries draws attention to various social issues and allows the viewer to consider or to take action on those issues.

The Backpack Journalism program shares the stories of its subjects responding to a variety of issues. Ultimately, the films serve as a means of advocacy, offering a voice to those on the margins. Aligned with the constructs of PIC, programs such as Backpack Journalism provide students a forum for advocacy and engagement along with hands-on experiences in storytelling and documentary filmmaking. The documentaries can help to raise public awareness and facilitate meaningful dialogue about a variety of social issues.

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Is Privacy Dead? Does it Matter? How Facebook Frames its Data Policy Through Public Communication

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Abstract

Facebook is the largest social media company in the world. The corporation holds vast amounts of data that provide artificial intelligence about attitudes and behaviors of 1.6 billon users throughout the world. The current study analyzes Facebook's public communication regarding data collection and privacy to better understand how the company frames its message strategy, which affects user understanding. As calls for oversight and legislation of data privacy continue to surface, this study explores how Facebook defines *data* and how it frames its data policy through public communication. Results show Facebook addresses *what* data the company collects but fails to provide sufficient clarity explaining how data is stored or used. It frames its privacy policy in terms that benefit users without explanation of its business model.

Introduction

As the CEO of Facebook, Mark Zuckerberg has said that "privacy is no longer a 'social norm'" (Osnos, 2018, para. 50). Today, consumer data are continuously collected by social media and other Internet companies in ways that differ dramatically from the ways data from individuals have been traditionally collected, often without the knowledge, understanding, or agreement on the part of the people from whom the data are collected. Furthermore, such data collection is not subject to any substantive regulatory oversight in the United States. Super computers owned by private-sector companies allow for the collection, storage, and analysis of vast quantities of

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information, known as big data, that are harvested and analyzed to develop predictive algorithms that are used for a variety of purposes that include psychological manipulation and social engineering (c.f., Ward, 2018). In the past, the right to privacy was associated with government as the invader of privacy. However, today people accept continuous corporate surveillance down to a person's physical location, even though they would never accept this level of surveillance from a government. Why do we reject mass government surveillance but agree to corporate surveillance?

The indifference of users who are willing to give up details of their private life and their rights to privacy in exchange for a platform to communicate with their friends, acquaintances, and bots is somewhat of a paradox in democratic countries where individual freedom and constitutional rights to privacy have been traditional values. The continuous surveillance that an average Internet user is subjected to daily has become an accepted cost of doing business. However, social media users may *not* be completely indifferent to privacy as a social norm, but rather may be unaware of how their privacy is invaded and at what costs.

Facebook's privacy policy offers users very little privacy, but most users have never actually read the policy. Lilley et al. (2012) surveyed more than 500 Facebook users and found most participants in their study were ignorant of the company's data sharing and selling practices. However, when they were told how Facebook uses their data, the majority of participants opposed such practices. According to a 2018 survey by the Pew Research Center, 74 percent of Facebook users did not know that Facebook collects information about them and maintains a list of their interests and traits to sell to advertisers. When directed to their list of interests and traits, 51 percent said they were not comfortable with Facebook maintaining this kind of list (as cited in Smith, 2019).

Most Facebook users have not read the privacy policy because it is difficult to find. Facebook users are instead presented with simplified bullets of the most benign parts of the policy along with a clickwrap for them to agree. Clickwraps are digital prompts that allow users to agree to privacy policies without seeing them. Obar and Oeldorf-Hirsch (2018) found that clickwraps facilitated circumvention of consent policies, allowing social media companies to manufacture consent by making it possible to consent to a privacy policy without seeing a single word of it on screen. However, from a legal standpoint clicking Agree means users opt in to Facebook's data policy and provides proof that they have read and understood the policy in its entirety. Zeadally and Winkler (2016) found Facebook's full privacy policy is not only difficult to access, but also difficult to understand. Their analysis of readability concluded that over half the population of users cannot understand what they are agreeing to when they sign up for an account (assuming they actually read it). The site changes its terms and conditions regularly, usually in response to complaints or controversy, often making the terms and conditions more complex and harder to access so most users do not understand how their personal information can be used.

Concerns over Facebook's policies and use of personal data are increasing. A national NBC News/*Wall Street Journal* poll found that 60 percent of Americans do not trust Facebook with

their personal information (as cited in Grothaus, 2019). Consequently, social media users have taken steps to curtail the types and amount of data they share with the platform (e.g., clearing cookies and limiting the amount of information they share), but nearly one-third of U.S. Internet users are still willing to sacrifice privacy for the sake of convenience (Droesch, 2019). Despite attempts to clarify its advertising transparency on the platform, Facebook's "ad explanations are often incomplete and sometimes misleading while data explanations are often incomplete and vague" (Andreou et al., 2018, p. 1). The lack of transparency has significant implications for public interest communications as users, advertisers, and policy makers are left to blindly navigate an ethical minefield. This study examines how Facebook frames its messages about privacy to the general public and looks critically at the consequences—intended and unintended—of Facebook's corporate business model and data collection practices.

The environment of unregulated social media surveillance

Facebook's business model is the extraction of data to sell, harvested through vast data surveillance, the results of which fuel an opaque system of microtargeting for the purpose of social engineering to affect behaviors and attitudes (Tufekci, 2018). A 2017 article in *The Economist* made a compelling argument that data has superseded oil as the world's most valuable commodity. Alphabet (Google's parent company), Amazon, Apple, Facebook, and Microsoft "collectively racked up over $25 billion in the first quarter of 2017" (*The Economist*, 2017, para. 1, emphasis added). Advances in technology, complex data-scraping algorithms, and loose privacy restrictions have created a data economy through which companies like Facebook have derived entire profit models. In its most basic form, the data economy is a marketplace in which users' personal information is first translated into an array of data points that then are brokered by third parties for targeted advertisements in exchange for vast sums of money (Wood, 2018). Constantiou and Kallinikos (2014) noted that "such data are acquired, abstracted, aggregated, analyzed, packaged, sold, further analyzed and sold again" (p. 85) for large profits for those who collect it. Facebook monetizes data by profiling users and selling their attention based on algorithms that can infer personality traits, sexual orientation, political views, mental health status, substance abuse history, and more, just from Facebook likes (Tufekci, 2018). From its inception, the process through which data are created, collected, and shared in the data economy has proven difficult to understand.

In 2014, the U.S. Federal Trade Commission (FTC) issued a report calling for congressional legislation requiring greater transparency and accountability of data brokers. The report found:

> Data brokers collect and store billions of data elements covering nearly every U.S. consumer. Just one of the data brokers studied held information on more than 1.4 billion consumer transactions and 700 billion data elements and another adds more than 3 billion new data points to its database each month. (FTC, para. 4, 2014)

It is important to note that data collection does not begin and end on social media. For example, McFarland (2017) reported that by 2020, car manufacturers will make more money off the sale of a driver's data than from the sale of the actual vehicle. Nevertheless, social media platforms remain the focus of this study because of the sheer volume of information the average user provides to platforms like Facebook.

Zuboff (2015) referred to the collecting and selling of personal data as "surveillance capitalism," which she defined as a "new form of information capitalism that aims to predict and modify human behavior as a means to produce revenue and market control" (p. 75). She noted that surveillance capitalism is immune to the traditional reciprocities between customers and capitalists. Facebook customers, advertisers, and third-party data brokers are the entities to which Facebook sells data. Facebook users are the company's product since they are the targets of data extraction and collection.

Multiple reports suggest that Facebook has the capacity to both (1) collect greater swaths of personal information that users do not directly provide themselves and (2) distribute that information to various buyers. A 2018 report in *The Wall Street Journal* found that Facebook had struck customized data-sharing deals that gave select companies (e.g., Nissan and RBC Capital Markets) "special access to user records well after the point in 2015 that the social network has said it walled off that information" (Seetharaman & Grind, 2018, para. 1). Additional reports released in February 2019 suggested that Facebook partnered with various smartphone applications to collect sensitive personal data. These included Flo Period and Ovulation Tracker, "which reportedly shared with Facebook when users were having their periods or when they were trying to become pregnant" (Doward & Soni, 2018, para. 6). According to *Financial Times'* personal data calculator, knowing whether or not a user is expecting a child roughly equates to nine cents of the user's personal data value (Steel et al., 2013). Importantly, a separate *Wall Street Journal* report found that Facebook can receive information from numerous apps even if the user does not have a Facebook account (as cited in Schechner, 2019).

Beyond partnering with and sharing content among various third parties, Facebook has demonstrated an unrivaled capacity to collect data on its own. To its credit, the platform has enabled a Download Your Data feature that allows users the ability to download and review information they have posted to Facebook. However, a *Wired* report found that the feature hardly tells users everything Facebook knows about them. Among the information not included is:

> information Facebook collects about your browsing history, information Facebook collects about the apps you visit and your activity within those apps, the advertisers who uploaded your contact information to Facebook more than two months earlier, and ads that you interacted with more than two months prior. (as cited in Tiku, 2018, para. 4)

Corporate surveillance, algorithms, and microtargeting

In his book *Zucked: Waking up to the Facebook Catastrophe*, Roger McNamee, a former Facebook investor and mentor to Zuckerberg, posited that "the value is not really in the photos and links posted by users. The real value resides in metadata—data about data—which is what we call the data that describes where the user was when he or she posted, what they were doing, with whom they were doing it…and more" (McNamee, 2019, p. 68). An investigation by ProPublica identified more than 52,000 unique attributes that Facebook has to classify users (Agnwin et al., 2016). Further demonstrating the extent to which Facebook seeks to obtain user information, the company filed patents in 2014 and 2015 for a technique that employs smartphone data to figure out if two people might know each other through metadata attached to the phone's camera including, for example, "if lens scratches or dust were detectable in the same spots on photos, revealing the photos were taken by the same camera" (Hill & Mattu, 2018, para. 6).

Every Facebook like, search, video, purchase, page view, etc., including the location of the user at the time, are captured from Facebook users even when they are not logged on to Facebook and aggregated to constitute big data. Since small data points are inconsequential and seemingly insignificant in their everydayness (Constantiou & Kallinikos, 2014), most social media users are unconcerned with and unaware of the purpose of the data collection. However, when small data are aggregated, predictive patterns are revealed that can be used to micro-target identifiable individual users with granular precision. It becomes possible to construct detailed individual psychological profiles and predictive algorithms that can produce patterns-of-life analysis and observation of behavior that was previously unobservable (Constantiou & Kallinikos, 2014).

Buhmann et al. (2020) noted that algorithms have repeatedly had intentional and unintentional negative consequences. Algorithms are used intentionally as organizational intelligence for strategy development and managerial decision making by many corporations (Markus, 2015). Although big data benefit corporations, big data can have negative consequences at the individual level based on the way the data are used for profits. Grocery store chains, for example, collect data when shoppers use customer cards, but the data are used primarily to target customers with coupons or as intelligence to determine which items to stock since profits come from the sale of food. Facebook, on the other hand, makes all of its profits by selling data to external third-party data brokers and companies, which can include political parties or quasi-governmental organizations in other countries. Such data can be used for purposes of social engineering and behavioral modification by affecting attitudes and behaviors (Frontline, 2018). For example, data sold to insurance companies can be used to produce algorithms to predict the likelihood of contracting diseases or having accidents (to decide who not to insure) or by employers to predict absenteeism, propensity for addiction problems, or to determine religious beliefs, political leanings, sexual orientation, or ethnicity (questions that companies cannot legally ask otherwise) (Silverman & Waller, 2015). Algorithmic

microtargeting also has been used to affect election outcomes, in what Osnos (2018) refers to as a threat to democracy.

Perhaps the most widely publicized instance of data collected through Facebook stems from the Cambridge Analytica breach. Cambridge Analytica, a political data firm hired by Donald Trump's 2016 election campaign, "gained access to private information on more than 50 million Facebook users" (Granville, 2018, para. 2) in order to provide the campaign with micro-targeted advertisements based on users' personality traits (Ward, 2018). In response, Zuckerberg posted an update on the platform several days after news of the breach broke, writing in part: "We have a responsibility to protect your data, and if we can't then we don't deserve to serve you" (Zuckerberg, 2018, para. 2). These comments, however, not only call into question the definition of the word *data* as Zuckerberg describes it, but also of the word *breach*. On the surface, it appears that Zuckerberg's definition of data refers to the information that users voluntarily post on Facebook (i.e., demographic information, job titles, relationships status, photographs, etc.), but does not account for information that Facebook collects based on metadata including users' network connections, online behavior, or psychographic profiles, for example. Facebook would have *sold* the data to Cambridge Analytica, which describes itself as a global election management agency, just as it sold data directly to the Trump campaign for the same purpose. Such a disconnect is problematic in that it distorts public perceptions about what actually constitutes personal information and, consequently, data privacy. It is likely that, having never read Facebook's policies in their entirety, many users believe Facebook's misleading claims that the corporation protects personal information.

The right to privacy

In the United States, the legal definition of personal information is information that can be used on its own or with other information to identify, contact, or locate a single person, or to identify an individual in context (Schwartz & Solove, 2014). It is generally assumed that individuals have the right to control the use of their personal data, and a number of U.S. laws protect the personal information of citizens. However, when a person agrees to Facebook's policy, he or she is agreeing to accept a different definition of personal information as defined by Facebook, relinquishing other legal protection. What little privacy the Facebook policy affords is in regard to what other Facebook users can see. Facebook sees, owns, and stores all of it. Social media companies obscure their operations in complex legalese, including how they use personal information, to whom it can be transferred, and how it is used by other companies. Schwartz and Solove (2014) purported that such policies have been allowed to stand because they, and the technological advances behind them, have moved at such a high velocity that few people outside a small number of experts understand their meaning. Privacy laws threaten surveillance capitalism.

There are no overarching privacy laws in the United States that apply to corporate data (Schwartz & Solove, 2014). Corporate super computers allow personal information to be stored indefinitely and used for purposes not yet discovered. Millions of data points are collected without a specific purpose and warehoused in case they become useful later (Zuboff, 2015). Facebook stores this information for "as long as it is necessary to provide products and services to you and others" (11, para. 29, Facebook policy). Tufekci (2018) noted that Facebook can store information indefinitely since the company decides how long it is necessary to keep the data. New technologies, such as facial recognition algorithms, and applications for data are discovered and implemented every day. Facebook users cannot control what is done with their data now or in perpetuity. Facebook has publicly defended its data policy and procedures, citing the fact that users opt in to the platform's terms and conditions, which will be discussed in later sections of this paper.

Facebook has faced public scrutiny over its data collection and privacy policies. In April 2018, the U.S. Congress called Zuckerberg to testify before the Senate Commerce and Judiciary committees on topics including privacy, data mining, and regulation. After fielding questions during the hearing, Zuckerberg and Facebook's newsroom were quick to articulate new privacy initiatives that purported to give users greater control over their data and assured increased transparency in its data collection processes. However, the new initiatives only gave users control over what other users see. In February 2019, Senator Elizabeth Warren called Facebook, Google, and Amazon monopolies for abusing their dominant position in the marketplace and suggested in a political advertisement posted on Facebook they be broken up. Consequently, Facebook removed the series of advertisements from its platform but later reversed its decision saying the company wanted to allow robust debate (Lima, 2019).

There is some indication that the public is becoming aware of some of the pitfalls of social media use and that policy makers may be becoming aware of the need for a regulatory response in the United States, as has already happened in Europe with the introduction of the GDPR.[1] Burrell (2016) noted that the word algorithm has shifted from an obscure technical term used by computer scientists to one used increasingly in mainstream media, often attached to a polarized discourse. In a joint letter from the Electronic Privacy Information Center and the Center for Digital Democracy to the FTC, they said, "Neither Facebook's Data Use Policy nor its Statement of Rights and Responsibilities adequately explains the specific types of information Facebook discloses, the manner in which the disclosure occurs, or the identities of the third parties receiving the information" (Lee, 2012, para. 3). Politicians have begun to call for the break-up of social media monopolies, particularly Facebook. The Pew Research Center's latest report on public perceptions of privacy indicates that 91 percent of U.S. adults agree or strongly agree that consumers have lost control over their personal data (Madden, 2014).

[1] The General Data Protection Regulation (GDPR) is a legal framework that sets guidelines for the collection and processing of personal information of individuals within the European Union (EU) that went into effect May 25, 2018.

However, the same Pew survey found that 55 percent of the participants agree or strongly agree that they are willing to share some information about themselves with companies in order to use online services for free (as cited in Madden, 2014). People want to use social media and until recently, most people have viewed social media companies positively without questioning their policies. As Zuboff (2015) observed:

> Individuals quickly came to depend upon the new information and communication tools as necessary resources in the increasingly stressful, competitive, and stratified struggle for effective life. The new tools, networks, apps, platforms, and media thus became requirements for social participation. (p. 85)

It is difficult for social media users to see past the advantages of quick and easy communication and look behind the curtain at how billions of dollars in revenue are derived from data mining and data brokerage and how these practices affect their lives.

Rationale for the study

Facebook is the largest social media company, valued at more than $560 billion (MacroTrends.net). The corporation holds vast amounts of data that provide artificial intelligence about attitudes and behaviors of 1.6 billon users throughout the world. Zuckerberg himself has explained that "there's no question that we collect some information for ads—but that information is generally important for security and operating our services as well" (Zuckerberg, 2019, para. 12). To be clear, although Facebook "primarily makes money by selling advertising space on its various social-media platforms" (Johnston, 2019, para. 1), its ability to sell advertising space in the first place is predicated on the accumulation and analysis of data about people (Amnesty International, 2019). In other words, advertising space on Facebook would be worth far less without the amount of information it has on users in order to assure buyers that messages would definitively reach their intended audience. So, although it is technically true that Facebook earns revenue by selling advertising space, we argue that the public is not provided with sufficient information with regard to how its personal data are used in the process.

This is problematic when positioned within the context of corporate public interest. Holland et al. (2018), in writing about the use of clarity, disclosure, and accuracy in organizational messages, noted that communication can be technically truthful but present incomplete or otherwise poorly framed information resulting in harm to an organization's credibility and transparency. The authors noted that message transparency includes clarity, avoiding jargon or legal definitions, as well as easy access, and that technically correct, truthful information has the potential to be undermined by the omission of key information. "Taken together, clarity, disclosure, and accuracy can be used to determine the level of transparency within a given organizational message through the inclusion of precise, truthful information that message receivers need to make informed decisions or form unbiased perceptions" (Holland et al., 2018, p. 258).

Extant literature in the area of corporate public interest suggests that openness and transparency are integral attributes to corporate social responsibility (Hoertz Badracco, 1998; Rawlins, 2008; Schnackenberg & Tomlinson, 2016). Lerbinger (2006) argued that openness is a critical component of corporate public affairs. He wrote:

> An open organization is permeable; it interacts with its environment at many points along its boundary with society. It is ready to listen to stakeholders, include their concerns in decision making, and sometimes involve them in coalitions and collaborative decision making. In contrast, a closed system is like a fortress, recognizing its interactions with society only through the economic marketplaces for necessary inputs (e.g., factors of production) and outputs (of its products and services). (pp. 15-16)

The current study analyzes Facebook's public communication regarding data collection and privacy to better understand how the company frames its message strategy, which affects user understanding and, thus, the public interest. As calls for oversight and legislation on the topic of data privacy continue to surface, this study poses two research questions in an effort to comprehend how Facebook defines data and how it frames its data policy through public communication:

RQ1: How does Facebook define data through its public newsroom?

RQ2: How does Facebook frame its data policy through its public newsroom?

Method

Sample

In total, 44 topically relevant posts from Facebook's online newsroom (www.newsroom.fb.com) were selected and downloaded for analysis. Newsroom posts were chosen for analysis because they are the organization's primary means to provide strategic, controlled messaging directly to the public without the influence of external pressures such as pointed questions during Congressional hearings or televised interviews. As such, newsroom posts were considered to be more measured accounts of Facebook's organizational framing.

Data collection began with a post on March 16, 2018, explaining Facebook's decision to suspend Cambridge Analytica and Strategic Communication Laboratories (SCL) from the platform and continued through March 6, 2019, when Zuckerberg outlined a vision for privacy focused social networking. These beginning and end dates were chosen in order to capture an entire year's worth of public communication efforts on behalf of Facebook during the height of its data privacy scandal. During that span, the authors' sampling strategy was guided by

identifying topically relevant posts that contained clear, in-text references to "data use," "personal information," "transparency," and "privacy."

Data analysis

Thematic analysis was used to examine Facebook's public communication efforts through the company's newsroom. Braun and Clarke (2012) define thematic analysis as "a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a dataset" (p. 57). This method of analysis allowed for an in-depth description of patterns within the data to be identified. Thematic analysis was conducted in six phases summarized below in Table 1, adapted from Braun and Clark (2006).

Table 1

Phases of thematic analysis, adapted from Braun and Clark (2006)

Phase	Description of the Process
1. Familiarization with the data	Once collected, authors read and re-read the releases from Facebook, noting initial ideas for coding.
2. Generating initial codes	Authors coded interesting features of the releases in a systematic fashion across the entire dataset, collating data relevant to each code.
3. Searching for themes	Using the list of codes developed in Phase 2, authors re-focused the analysis to a broader level of themes of organized codes.
4. Reviewing themes	Authors refined themes to ensure data within themes cohered together meaningfully, and that there were clear and identifiable distinctions between themes.
5. Defining and naming themes	Authors clarified the 'essence' of each theme, and finalized versions were developed based around author agreement on what the themes were and what they were not.
6. Producing the report	Analysis was written to provide a concise, coherent, logical, and interesting account of the story the data tell.

An essentialist/realist framework (Braun & Clarke, 2006) for a data-driven thematic analysis was used. Under an essentialist/realist framework, thematic analysis can be used as a tool to explore how "events, realities, meanings, experiences, and so on are the effects of a range of discourses operating within society" (Braun & Clarke, 2006, p. 81). Operating under this framework, themes could be directly derived from the original data, and a unique coding framework in relation to Facebook's definition of data and its framing of the company's data policy could be developed. Van den Bogaert et al. (2018) adopted a similar framework in examining press releases of the four largest pharmaceutical companies in Belgium and the

industry's trade association. Posts to Facebook's newsroom were read several times by both authors to ensure thorough comprehension. Patterns within the data were coded by the researchers and extracts from the original data were assembled into non-overlapping themes. They were compared to the original posts and further refined to ensure that data within the themes cohered together meaningfully, and that there were clear and identifiable distinctions among themes.

Results

In identifying themes present in the company's online news releases, a three-part framework was adopted from Ward's (2018) position that there are three aspects of information privacy: (1) data collection, (2) storage, and (3) use. In its releases, Facebook primarily addresses *what* data the company collects but ultimately seems to fail to provide sufficient clarity explaining how data are stored or used. Facebook frames its privacy policy in terms that benefit users without any explanation of its business model.

How does Facebook define data?

In a published transcript of a media interview with Zuckerberg, CBS News correspondent Nancy Cortez posed a question seeking greater clarity on Facebook's data collection process: "Your critics say, look, Facebook's model, Facebook's business model, depends on harvesting personal data. How can you ever personally assure users that their data won't be used in ways they don't expect?" Zuckerberg responded using what appears to be a consistent message in Facebook's definition of data—that the platform collects information that users voluntarily provide on the platform:

> I think we can certainly do a better job of explaining what we actually do. There are many misconceptions around what we do that I think we haven't succeeded in clearing up for years. So, first, the vast majority of data that Facebook knows about you is because you chose to share it. Right? There are other Internet companies or data brokers or folks that might try to track and sell data, but we don't buy and sell. In terms of the ad activity, I mean that's a relatively smaller part of what we're doing. The majority of the activity is people actually sharing information on Facebook, which is why people understand how much content is there, because people put all the photos and information there themselves.

This portion of Zuckerberg's response is emblematic of Facebook's double speak in defining data collection in a way that does not really explain it and ultimately places the burden of privacy on the user. His response does not paint a complete picture describing the process Facebook uses to extract data about more substantive data points such as users' behavior on the platform and

metadata, nor does his answer provide any substantive explanation for what Facebook actually collects.

In a separate release on April 23, 2018, Rob Goldman (VP of Ads at Facebook) suggested that the company collects information from things the user *chooses* to share like age, gender, hometown, and friends. Goldman also pointed out that Facebook gathers information based on what users click, and the posts, pages, or articles they like. Consequently, newsroom releases suggest that Facebook is only collecting that which its users *voluntarily* share thereby absolving itself while placing the burden of privacy on the user.

Zuckerberg's second half of his response to Cortez's question framed the company's *use* of data as a way to benefit the user:

> The second point, which I touched on briefly there: for some reason we haven't been able to kick this notion for years that people think we sell data to advertisers. We don't. That's not been a thing that we do. Actually, it just goes counter to our own incentives. Even if we wanted to do that, it just wouldn't make sense to do that. So, I think we can certainly do a better job of explaining this and making it understandable, but the reality is the way we run the service is: people share information, we use that to help people connect and to make the services better, and we run ads to make it a free service that everyone in the world can afford.

Facebook does not sell the inconsequential, everyday points of data, which are worthless without aggregation and analysis. The concept of data use here is positioned as a benefit to Facebook users. This notion is repeated consistently throughout several of the newsroom releases selected for this study.

In an April 17, 2018 release, Erin Egan (VP & Chief Privacy Officer) and Ashlie Beringer (VP & Deputy General Counsel) suggested, "Ads on Facebook are more relevant" (para. 3) to the consumer based on data Facebook uses and that the platform's facial recognition software features "help protect your privacy and improve your experiences, like detecting when others might be attempting to use your image as their profile picture and allowing us to suggest friends you may want to tag in photos or videos" (para. 5). In the same April 23 post by Goldman, he suggested, "We use this information to give you a better service…Data also helps us show you better and more relevant ads" (para. 12). Moreover, Goldman suggested that these data uses benefit small businesses that otherwise may not be able to compete with larger organizations: "Data lets a coffee shop survive and grow amid larger competitors by showing ads to customers in its area. And it lets a non-profit promote a diabetes fundraiser to those interested in the cause" (para. 14). Of course, Facebook algorithms can predict which users have diabetes. Goldman evades the issue of what the company sells, which is the artificial intelligence that is developed *from* the data.

With regard to storage, few releases address how long Facebook keeps data but several outline ways for users to exert greater control over the company's storage of data. In a March 28, 2018, release on making Facebook's privacy tools easier to find, Egan and Beringer asserted, "It's one thing to have a policy explaining what data we collect and use, but it's even more

useful when people see and manage their own information" (para. 8). This announcement introduced Facebook's Access Your Information tool that purportedly offered users a secure way to access and manage information, such as posts, reactions, comments, and searches. But the company provided minimal clarity with regard to how long data are actually stored. In a March 6, 2019, release, Zuckerberg raised the idea of reducing data permanence but does so under ambiguous terms:

> People should be comfortable being themselves and should not have to worry about what they share coming back to hurt them later. So, we won't keep messages or stories around for longer than necessary to deliver the service or longer than people want them. (para. 10)

However, Zuckerberg offered no clarification for what *longer than necessary* means.

In sum, releases from Facebook's online newsroom offer a narrow definition of data that provides limited clarity with regard to the company's data collection procedures and little to no information about storage and use. The contextual definition of data in the releases is the everyday posts, likes, etc., that have no value to the company. The overall tone is one of reassurance, and the overall message is that users have nothing to worry about.

Framing Facebook's data policy

Three themes emerged in the analysis that illustrate how Facebook frames its data policy: (1) Facebook establishes privacy and data collection as a salient issue facing the company; (2) it places user experience at the center of its rationale for data collection; and (3) the online news releases are strategically ambiguous with regard to how data are collected, stored, and used.

Establishing issue salience

In the March 16, 2018, release in which Facebook announces that it banned Cambridge Analytica and SCL Group from the platform, the company contended that "protecting people's information is at the heart of everything we do, and we require the same from people who operate apps on Facebook" (para. 1). Throughout the study period, news releases on Facebook's online newsroom make data privacy a salient issue facing the company. Several posts affirm the company's responsibility and accountability with regard to protecting user data and providing greater transparency in its operations. In a post on March 21, 2018, Zuckerberg wrote:

> We have a responsibility to protect your data, and if we can't then we don't deserve to serve you…I started Facebook, and at the end of the day I'm responsible for what happens on our platform. I'm serious about doing what it takes to protect our community. While the specific issue involving Cambridge Analytica should no longer happen with new apps today, that doesn't change what happened in the past. We will learn from this experience to secure our platform further and make our community safer for everyone going forward.

The fallout from Cambridge Analytica prompted Facebook to post about updates to its data policy several times over the course of the year. On April 4, 2018, Egan and Beringer authored a release, "We're Making Our Terms and Data Policy Clearer, Without New Rights to Use Your Data on Facebook." In it, they outlined updates following Cambridge Analytica that were intended to provide greater clarity on the platform's privacy standards including new features and tools, information about what the company shares, advertising, and device information, among others.

Subsequent releases included references to data privacy as the most important topic at Facebook. The company announced plans to crack down on platform abuse, launched a new initiative to help scholars assess social media's impact on elections, created a data abuse bounty program, and published a series of transparency reports to further establish the idea that the company was taking this topic seriously.

Several releases addressed Facebook's preparation for and compliance with the European Union's GDPR. An April 17, 2018 release, for example, said:

> As soon as GDPR was finalized, we realized it was an opportunity to invest even more heavily in privacy. We not only want to comply with the law, but also go beyond our obligations to build new and improved privacy experiences for everyone on Facebook. We've brought together hundreds of employees across product, engineering, legal, policy, design and research teams. We've also sought input from people outside Facebook with different perspectives on privacy, including people who use our services, regulators and government officials, privacy experts, and designers. (para. 2)

Four outside opinions came in the form of a series of guest posts by thought leaders in the industry and in the academy. Former FTC Chairman Terrell McSweeny, for example, wrote: "Privacy is a crucial aspect of consumer rights in the digital age—and openness is another. The right balance will be found in policies that give users meaningful control over their digital identities but that also foster competition and innovation." In sharing each of the guest posts, Facebook demonstrated its commitment to bringing outside voices into the decision-making process.

Moreover, many of the releases selected during this span concluded with the author of the release asserting that Facebook is committed to doing more to ensure public trust in the organization's efforts. By establishing data privacy as a salient issue with the organization, Facebook positioned its data policy as a sincere, thoughtful effort to address its shortfalls. The company turned the Cambridge Analytica breach, through which the company lost potential revenue, into an opportunity to reassure users without explaining what the company was really protecting.

User experience

While maintaining that data privacy is a salient issue that requires significant improvement, Facebook's online news releases simultaneously worked to establish data collection, use, and

storage as integral to the user experience and advertiser success. In a July 26, 2018 post, David Baser (Director of Product Management) defended the process of information sharing across platforms that Facebook relies upon:

> Some of the world's most popular apps have been built on the Facebook Platform—it's helped great ideas get off the ground and simplified and streamlined people's digital lives. But we know that this flow of information has the potential for abuse. Bad actors can gather information from people and use it in ways that they aren't aware of and didn't agree to. Facebook has clear policies against this, but as we saw with the Cambridge Analytica situation, bad actors are more than willing to ignore these policies in pursuit of their own objectives. Some argue that the best response to Cambridge Analytica would be to lock Facebook down completely so apps can't get access to this kind of information. But limiting people's ability to share information would erase the conveniences we enjoy. (paras. 3-4)

This post suggests two things. First, Facebook's data policy has clear benefits to its users. By collecting and harvesting data about interests, political affiliation, religion, sexual orientation, relationship status and the like, Facebook is better suited to provide users with tailored content. What the company does not explain is that much of the tailored content is sponsored advertisements. In response to a reporter from Buzzfeed during the April 4 Q&A session with the media, Zuckerberg stated,

> People tell us that if they're going to see ads, they want the ads to be good. And the way to make the ads good, is by making it so that when someone tells us they have an interest, they like technology or they like skiing or whatever it is they like, that the ads are actually tailored to what they care about.

Overall, the tone of the message appears to imply a balance between giving users control over data sharing and preventing abuse without hampering the Facebook experience.

Second, Baser's post suggests that data misuse happens because bad actors ignore Facebook policies and breach the platform's trust. As such, Facebook is not the guilty party. Rather, these bad actors (i.e. Cambridge Analytica, SCL, Six4Three) abuse the system making Facebook just as much a victim as its users. The implication here is that if everyone plays by the rules, Facebook can provide countless benefits through its data policy.

Benefits do not extend only to users, however. Several releases emphasize the utility of data collection, use, and storage to advertisers and designers. A June 28, 2018, release, for example, suggested, "The vast majority of ads on Facebook are run by legitimate organizations—whether it's a small business looking for new customers, an advocacy group raising money for their cause, or a politician running for office" (para. 5). Similarly, a July 31, 2018, release suggested that changes in Facebook's data policy "ensure that we better protect people's Facebook information while also enabling developers to build great social experiences—like managing a group, planning a trip, or getting concert tickets for your favorite band" (para. 4). These releases function to make the role of advertisers on Facebook more palatable to the company's users. The

logic appears to be that if advertisers and developers can make the user's experience better, continued data collection, use, and storage are warranted.

Strategic ambiguity

Although establishing the salience of data privacy as an issue and bolstering the user experience appear to be noble efforts on the company's part, the language used in the releases appears to be strategically ambiguous so as to allow greater discrepancy and legal wiggle room for Facebook to operate.

In Baser's April 16 release, he wrote: "Whether it's information from apps and websites, or information you share with other people on Facebook, we want to put you in control—and be transparent about what information Facebook has and how it is used" (para. 26). But although Facebook continues to suggest that the company is affirming its commitment to transparency, many of the releases contain language that appears to intentionally withhold or manipulate information that may be necessary to fully understand the subject of the post. For instance, several releases refer to the platform's strict restrictions on how its partners can use and disclose data. Nowhere, however, does the company explain what those restrictions entail. A May 14, 2018, release by Ime Archibong on Facebook's application audit suggested, "To date thousands of apps have been investigated and around 200 have been suspended—pending a thorough investigation into whether they did in fact misuse any data" (para. 4). Again, a description of what constitutes the misuse of data is conspicuously absent.

Perhaps the most obvious example of this theme emerged through the company's ardent defense that it does not sell data to advertisers. In several cases, the author(s) of the releases suggest that Facebook *never* sells data to advertisers. Zuckerberg staunchly defended this position in the aforementioned media conference call. His response to a question posed by Carlos Hernandez, a reporter for Expansión (a Spanish economic and business newspaper), reinforces this notion. Hernandez asked:

> You mentioned one of the main important things about Facebook is people…and users' understanding of the platform. Do you have any plans to let users know how their data is being used? Not just on Facebook but also on Instagram and other platforms that you are responsible for?

Zuckerberg responded:

> I think we need to do a better job of explaining principles that the service operates under, but the main principles are, you have control over everything you put on the service, and most of the content Facebook knows about you is because you chose to share that content with your friends and put it on your profile. And we're going to use data to make those services better, whether that's ranking News Feed, or ads, or search, or helping you connect with people through people you may know, but we're never going to sell your information. And I think if we can get to a place where we can communicate that in a way that people can understand it, then I think we have a shot of

> distilling this down to something, to a simpler thing, but that's certainly not something we have succeeded at doing historically.

Zuckerberg readily admits that the company has failed to offer an acceptable degree of clarity with regard to how its process for data collection, use, and storage works. He acknowledges that there is a need for this, and yet offers no substantive response to the question. Rather than taking an opportunity to directly address the issue, Zuckerberg doubles down on benign platitudes such as users having control of information because they chose to share it in the first place.

This notion of user control is reaffirmed in an April 23, 2018, release by Goldman that attempts to explain what information Facebook advertisers have about users. The release is structured as a Q&A format, and the following is an excerpt from the release:

> If I'm not paying for Facebook, am I the product?
>
> No. Our product is social media—the ability to connect with the people that matter to you, wherever they are in the world. It's the same with a free search engine, website or newspaper. The core product is reading the news or finding information—and the ads exist to fund the experience.
>
> If you're not selling advertisers my data, what are you giving them?
>
> We sell advertisers space on Facebook—much like TV or radio or newspapers do. We don't sell your information. When an advertiser runs a campaign on Facebook, we share reports about the performance of their ad campaign. We could, for example, tell an advertiser that more men than women responded to their ad, and that most people clicked on the ad from their phone.

The distinction between selling data and selling space, however, is not made apparent through this explanation. Rather, the release strategically positions Facebook with more common variations of advertisements for TV, radio, and newspapers. It does not provide a clear description of how data is used *for* these advertising campaigns to be successful. There is a logical disconnect between how Facebook sells advertisers space, and how Facebook knows what space to sell. What Facebook sells to advertisers is space on the News Feeds of individuals who will be the most psychologically susceptible to the advertisement, determination of which is made based on personal data.

Discussion

Thematic analysis of the releases examined in this study show that Facebook provides little information about its data collection, use, and storage practices. Our analysis cannot offer a

comprehensive understanding of what Facebook considers to be user data, which is precisely the heart of the issue. The bottom line is that Facebook offers no clear definition of data to its users, and that makes it difficult for the company to articulate a cohesive privacy policy to the public. This overall lack of transparency yields significant consequences with regard to the public interest.

This is in large part a byproduct of minimal oversight and regulation on data privacy; the company simply is not required to be fully transparent in its data collection practices. From its inception, the process by which data are created, collected, and shared in the data economy has been difficult to understand. Seemingly inconsequential small data from individuals' likes, searches, videos, clicks, location, purchases, page views, etc., are aggregated to constitute big data, which can be analyzed to produce algorithms that reveal predictive patterns of behaviors, values, and attitudes (Zuboff, 2015). Facebook does not sell the small data points, which users see as personal data, but rather the small data are the raw material from which psychological profiles of individual users are derived, producing a form of artificial intelligence. Facebook monetizes data by profiling users and selling their attention based on algorithms that can infer personality traits that are useful to advertisers. For example, if the algorithm determines that a woman is trying to get pregnant, advertisers will pay to put messages in front of her.

The term Facebook advertisement is a misnomer since Facebook does not sell space to advertisers in the traditional sense but sells algorithms to micro-target individuals who will be the most psychologically susceptible (c.f. Ward, 2018) to the messages. Moreover, McNamee (2019) contended that "all that data goes into Facebook's artificial intelligence and can be used by advertisers to exploit the emotions of users in ways that increase the likelihood that they purchase a specific model of car or vote in a certain way" (p. 69). Facebook's advertisers include not only legitimate organizations, but also political entities—foreign and domestic, special interest groups, app developers, fake organizations, and real grassroots organizations that seek to polarize and radicalize.

Unlike traditional advertising messages that are regulated by the FTC, algorithmic micro-targeting is completely unregulated. Facebook also sells data to third-party brokers who use bulk data to create their own algorithms and who operate, in the United States at least, in secrecy—outside of statutory consumer protections and without consumers' knowledge, consent, or rights of privacy and due process (U.S. Committee on Commerce, Science, and Transportation, 2013, as cited in Zuboff, 2015, p. 78). In other words, third-party brokers can decide how the data are used, and Facebook policies do not apply, giving Facebook a legal loophole to escape liability for any misuse. However, according to Ward (2018), most individuals are unaware of how data are collected, stored, and used and have little understanding of what, exactly, is taken from them, and the current study found that Facebook does little to contribute to a better understanding.

Zuckerberg purports that Facebook uses data to provide better service. According to McNamee (2019), Facebook's algorithms give users what they want, which is good for Facebook's bottom line since happy users share more data, which are the raw materials from which profits are derived. He suggested that one might assume that Facebook's users would be

outraged by the way the platform has been used to undermine not only privacy, but also democracy, human rights, public health, and innovation: "Some are, but most users love what they get from Facebook. They love to stay in touch with distant relatives and friends. They like to share their photos and their thoughts. They do not want to believe that the same platform that has become a powerful habit is also responsible for so much harm" (p. 242). Debatin et al. (2019) found empirical evidence in support of these assertions, suggesting that Facebook users' lax attitude may be based on a combination of high gratification, use patterns, and a psychological mechanism similar to third-person effect. Debatin et al. (2019) claimed that safer use of social network services would thus require changes in user attitude. Their findings are consistent with extant literature about social media platform use and behavior.

The current study represents a point of departure from placing the burden of behavioral change on the individual user, but rather makes a case that social media companies like Facebook need to be held responsible for creating, maintaining, and communicating clearer policies regarding data collection, use, and storage. Although legislative action like GDPR in the European Union and California's Consumer Privacy Act have attempted to resolve some of the issues such as clearly defining personal data, using plain language, obtaining informed consent, data accessibility and portability, and the right to be forgotten, among others, technology companies such as Facebook, Twitter, and Google persist in collecting personal information under the guise of providing better service to the user. What is surprising is the lengths that these companies will go to in order to maintain their competitive advantage. A report in *The Guardian* on unearthed internal documents at Facebook, for example, found that the company "targeted politicians around the world—including former UK chancellor, George Osborne—promising investments and incentives while seeking to pressure them into lobbying on Facebook's behalf against data privacy legislation" (Cadwalladr & Campbell, 2019, para. 1). In 2017, Facebook spent $11.5 million on lobbying, making it among the top spenders in Washington (Osnos, 2018). Stories such as this one lend additional support to the argument that Facebook's public communication efforts are misleading in regard to its data policy and are emblematic of the company's clandestine nature.

The releases selected for analysis in this research suggest that Facebook may not necessarily be keeping its processes secret in order to protect its competitive advantage, but rather, as Buhmann et al. (2020) suggested, "The fluidity of these systems makes it excessively difficult, and in some cases even impossible, to detect problems and identify causes even if organisations [*sic*] grant access" (p. 81). These opacity concerns affect not only Facebook, but any entity (i.e., political, corporate, etc.) that chooses to advertise on the platform.

That Facebook's public communication is unclear only scratches the surface of potential legal, ethical, and policy implications associated with data gathering, storage, and use. Isaak and Hanna (2018) considered these issues to be disruptive forces that "have a tangible influence on citizens' rights such as statutory rights—due process, equal representation before the law, the right to appeal, and trial by jury—and constitutional rights like freedom of expression, voting, and non-discrimination" (p. 57). Ward (2018) argued, "Regardless of how data is used, the very

collection of it in bulk results in power imbalances that threaten the autonomy of individuals who have little say in whether data is hoarded and scant knowledge of what, exactly, is taken" (p. 137). At the very least, companies such as Facebook should be fully transparent in their practices to ensure that users are completely aware of what they do, in fact, opt in to.

Conclusion

Concerns about Facebook's policies and use of personal data are increasing. This study examined how Facebook frames its messages about privacy to its users and took a critical look at the consequences of Facebook's corporate business model and business practices. The primary contribution from the study is the light it sheds on Facebook's message strategy regarding its privacy policies and algorithmic applications. In keeping with Fessmann's (2017) conceptual foundations of public interest communications, we believe that by illuminating Facebook's strategic framing of its privacy policy, results from the current study might yield valuable insight into the organizational structures that need to be challenged in order for scholars and practitioners alike to effectively and ethically address public interest concerns associated with corporate surveillance and obscure data collection practices. Tufekci (2015) warned of the potential consequences of allowing such structures to go unchecked: "In essence, our machines, armed with our data, can increasingly figure things out about us beyond any previous level, and completely unaccounted for in law, policy, or even basic awareness among the general public" (p. 211).

Big data and algorithms are not inherently bad. Prior research has "exposed both the potential harm in the use of Big Data, as well as its potential for improving society and bringing about social justice" (Holtzhausen, 2016, p. 21). But in order to stem the negative consequences associated with data collection on such a massive scale, public policy is needed to better protect social media users as well as to require more transparency about how data are used. Given how rapidly the social media landscape can change, it is critical to note that data collection, if left unregulated, will only expand, casting more doubt on its effects on our cultural institutions.

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