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The Influence of Channel, Flooding, and Repair on Effective Couple Conflict Communication

NICOLE KASHIAN
Florida International University, USA

This study examines the influence of face-to-face (FtF) communication and mediated communication on effective conflict communication among married and dating couples, and whether flooding or repair were mechanisms for effective conflict communication. A national sample of couples who primarily used mediated communication or FtF communication in a recent conflict discussion participated. Individuals who reported primarily using FtF communication experienced a negative relationship between flooding and effective conflict communication. This relationship was not significant for individuals who primarily used mediated communication, suggesting that mediated communication might buffer the negative effect of flooding on effective conflict communication. Repair also mediated the indirect effect of channel on effective conflict communication for individuals with low and high levels of relational satisfaction, suggesting mediated communication facilitates repair among dissatisfied couples, and FtF communication facilitates repair among satisfied couples. This study emphasizes the importance of channel, reduced flooding, repair, and relational satisfaction for effective conflict communication.

Keywords: mediated communication, conflict, effective communication, flooding, repair, satisfaction

Mediated communication plays an important role in conflict management among romantic couples. National survey research has shown that 23% of young adults (ages 18 to 29) and 9% of all adults have resolved an argument with their romantic partner online or by text messaging that they have had difficulty resolving in person (Lenhart & Duggan, 2014), and couples have reported using text messaging very often or often during conflict (Scissors, Roloff, & Gergle, 2014). Previous research suggests that certain aspects of mediated communication, such as asynchronicity, reduced cognitive load, and fewer nonverbal cues can facilitate effective conflict communication. For example, experimental research has shown that satisfied individuals tend to make more favorable attributions for their partners' conflict behavior when they use asynchronous communication in conflict (Kashian & Walther, 2018). Moreover, members of couples report using mediated communication in conflict to avoid conflict escalation, manage their emotions (Scissors & Gergle, 2013), generate desired messages, and because it is easier (Caughlin, Basinger, & Sharabi, 2017).

Nicole Kashian nicole.kashian@gmail.com
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Despite the prevalence of couple conflict and couples' increasing use of technology-mediated communication to manage conflict, little research has systematically examined whether and how mediated communication can influence effective couple conflict communication. This article explores two possible mechanisms for effective conflict communication: reduced flooding and repair attempts. Flooding refers to an internal state of feeling overwhelmed by negative emotions, and repair refers to actions that prevent negative conflict interactions from escalating out of control (Gottman, 2011). Research has shown that members of couples report less arousal and domination (i.e., mutual attempts to be in control and "win" an argument) in couple conflict when they use mediated communication than when they use face-to-face (FtF) communication (Makki, 2019), and people who use video chat in conflict report more communication satisfaction than those who use FtF communication (Shin, Liu, Jang, & Bente, 2017). Research suggests that features of mediated communication might buffer the negative impact of couple conflict. This study examines whether mediated communication influences effective conflict communication as well as the mechanisms for this phenomenon.

Mediated Communication and Effective Conflict Communication

The hyperpersonal model (Walther, 1996) is a useful framework to understand the potential benefits of mediated couple conflict. The model explains how individuals adapt to and exploit the features of mediated communication to create positive outcomes due to interrelated sender, channel, receiver, and feedback effects. Although the hyperpersonal model in its original form does not directly address ongoing relationships, several studies have extended the model to relational maintenance activities (e.g., Edwards, Bybee, Frost, Harvey, & Navarro, 2017; Jiang & Hancock, 2013).

The sender effect of the hyperpersonal model refers to selective self-presentation. Selective self-presentation occurs when users of mediated communication reveal as much or as little information as they choose depending on the number of cues present in an interaction. For instance, senders who use text or voice communication can mask involuntary cues, such as gestures or facial expressions, that could reveal undesirable affect or contradict a conciliatory tone in a message that might escalate the conflict. Research has shown that members of couples report that they use technology in conflict so that their partners do not judge their nonverbal feedback (Caughlin et al., 2017), and so that they are not exposed to their partners' negative feedback that might detract from their own self-presentation (Frisby & Westerman, 2010).

The channel effect refers to the affordances offered by mediated communication. The asynchronous nature of text-based communication gives partners more time to construct messages that accomplish their communication goals, while the editable nature of text-based communication allows partners to revise messages for desired intent. Another benefit of text-based communication is the extra effort partners can put toward message construction through the redirection of cognitive resources that they would have otherwise used to coordinate FtF communication. Instead of searching for nonverbal feedback, managing timing, and being attentive, interactants can focus on message assembly. Indeed, research has shown that members of couples report using technology in conflict to give themselves extra time to formulate an effective comeback or an excuse (Caughlin et al., 2017) rather than giving an immediate response that they might regret if they were in person (Scissors & Gergle, 2013). For couples who use audio channels, the reduced cue environment also allows partners to consult with prepared notes or take notes about their forthcoming response without being seen. Overall, the channel offers many affordances for couple conflict.

The receiver effect refers to receivers' idealization of the sender. Receivers often interpret their partners' messages to be overly positive via mediated communication due to senders' selective self-presentation and a reduced cue environment that masks information that might contradict senders' selective self-presentation. Receivers who use text-based mediated communication do not hear harsh tones; and receivers who use text or voice communication do not see negative facial expressions or aggressive gestures. Research has shown that people in close relationships view misunderstandings to be less serious via mediated communication (text messages, instant messaging, e-mail, social media) than via FtF communication (Edwards et al., 2017), suggesting that mediated communication lessens the negative perception of conflict. Research has shown that frequent mediated communication in long-distance relationships can lead to unrealistic expectations due to idealization and instability upon reunion, though this same study also found that moving to the same location was a significant predictor of stability (Stafford & Merolla, 2007). More recent research has shown that long-distance couples (vs. geographically close couples) who experience idealization and spend more time together face-to-face report greater relational commitment and relational length (Jiang & Hancock, 2013). Thus, it is possible that partners can adjust their expectations upon reunion.

The feedback loop refers to the reciprocal influence interactants have on each other in mediated communication. Enhancements provided by senders' selective self-presentation, receiver idealization, and channel effects are theorized to form a feedback system by which mediated communication intensifies and magnifies the dynamics created by each part of the model. This part of the model has not been tested in the context of couple conflict, though research has shown that strangers who have conflict via video chat evaluate their partners to be more likable and trustworthy than those who have conflict FtF (Shin et al., 2017), suggesting feedback effects. While intensification of interpersonal dynamics can be either positive or negative, intensification is likely to be positively biased for those who are in a romantic relationship.

It is important to note that the same qualities of mediated communication that the hyperpersonal model asserts facilitate more positive communication, such as asynchronicity and reduced nonverbal cues, have also been theorized to contribute to misunderstandings and less effective communication known as the cues-filtered-out perspective. The cues-filtered-out perspective refers to a group of theories that assume mediated communication hinders effective communication due to its reduced nonverbal cues (gestures, smiles, pats on the back, nods to show attentiveness, eye contact, etc.), in comparison to channels that offer the transmission of more nonverbal cues such as FtF communication. Theories that fall into this perspective have received mixed empirical support, often opposite of predictions, as research has shown that individuals can use mediated communication to achieve effective task as well as social and relational communication outcomes (e.g., Kanawattanachai & Yoo, 2007; Markus, 1994; Rea, Behnke, Huff, & Allen, 2015).

In light of inconsistent findings, the cues-filtered-in perspective was formed. The cues-filtered-in perspective refers to a group of theories that assume people adapt to media and exploit its features to achieve effective communication regardless of the number of cues a medium transmits. The hyperpersonal model falls into this perspective because it posits that interrelated sender, receiver, channel, and feedback effects facilitate more positive communication than FtF communication. Because this line of research suggests that members of couples benefit from using mediated communication in conflict due to its affordances, and the hyperpersonal model explains how people adapt to and use media features to achieve effective communication, the hyperpersonal model is a useful framework to explore mediated conflict communication. It is possible that mediated communication offers unique affordances to potentially buffer the negative effect of couple conflict among flooded individuals due to interrelated channel, sender, receiver, and feedback effects. Reduced flooding and increased repair attempts are two explanatory factors for effective couple conflict communication.

Flooding, Repair Attempts, and Effective Conflict Communication

Reduced Flooding

Flooding is one reason that individuals might benefit from using mediated communication in couple conflict. Per the theory of marital dissolution and stability (Gottman, 1993), flooding occurs when individuals are overwhelmed by their partners' and their own negative emotions in response to diffuse physiological arousal or a heightened state of arousal. This sense of being overwhelmed and unsafe happens to people in the face of strong negative emotion in reciprocally negative escalating exchanges. These exchanges tend to include destructive communication in the form of criticism and name-calling for example. People often feel that their partners' negative emotions are unexpected ("My partner's negativity came from out of nowhere"), intense, and disorganizing. As a result, partners will do anything to terminate the interaction, run away, or withdraw ("I felt like running away during our fight").

Not surprisingly, flooding can be detrimental to couple conflict. Flooding reduces people's ability to process information, attend to and listen to their partners, problem solve, empathize, and use humor. Individuals often become defensive, generate negative attributions for their partners' behavior, repeat themselves, and wish to escape—all of which decrease effective conflict communication (Gottman, 2011). Longitudinal research has shown that the more aroused married couples are during conflict, which stimulates flooding, the more their marital satisfaction declines over the next three years due to isolating and distancing themselves from each other, regardless of couples' initial levels of marital satisfaction (Levenson & Gottman, 1985). Similarly, cross-sectional research of serial conflict has shown that destructive communication facilitates flooding and avoidant behavior (Liu & Roloff, 2016).

One solution to flooding is taking breaks during conflict. Research has shown that couples who take breaks during conflict and reduce their heart rate to normal resting levels generate less negative behavior than couples who do not take breaks (Tabares, 2008). Because text-based mediated communication can facilitate a natural break in couple conflict due to its asynchronous nature, text-based mediated communication could reduce flooding and facilitate more effective conflict communication. Couples who use text-based or voice communication might also experience less flooding due to the reduced-cue environment. Decreasing the amount of potentially negative cues individuals send and receive in conflict can serve as a mini break to a conflict interaction. For instance, members of couples report that they are better able to control their emotions when they do not have to see their partner in person ("That was a fight I couldn't handle in person 'cause I couldn't even handle looking at him. It just made me feel sick to my stomach"; Scissors & Gergle, 2013, p. 242). Likewise, individuals report greater arousal for FtF conflict communication than for voice, text-based (Makki, 2019), and video chat conflict communication (Shin et al., 2017). This research suggests that the asynchronous nature of text-based mediated communication and the reduced-cue environment of mediated communication can reduce flooding by facilitating breaks in conflict communication. Thus, the following hypothesis is proposed:

H1: Individuals who use mediated communication in couple conflict will experience a weaker negative relationship between flooding and effective conflict communication than those who use FtF communication in couple conflict.

Repair Attempts

Repairing negativity is another reason that individuals might benefit from using mediated communication in couple conflict. Repair refers to any action that lessens negative affect or increases positive affect during a conflict interaction (Gottman, Driver, & Tabares, 2015). Repair attempts have been categorized as cognitive and affective attempts. Cognitive repair attempts appeal to logic and rationality and include actions such as compromise, defining the conflict, making promises to change, and seeking information. Affective repairs create emotional closeness and include actions such as agreement, self-disclosure, taking responsibility, understanding, and empathy. Research has shown that repair attempts that induce emotional connection (e.g., taking responsibility, agreement, affection, empathy), induce neutral affect, or induce positive affect are the most effective repair attempts because they remove the threat of the conflict interaction (Gottman et al., 2015).

Mediated communication might afford users more opportunity to generate repair attempts due to the sender, receiver, channel, and feedback effects of the hyperpersonal model. Due to the asynchronous nature of text-based mediated communication, users can write messages that are thoughtful (channel effect), present themselves positively (sender effect), and presumably elicit reciprocal repair attempts (receiver effect). Using text-based or voice communication, users can refrain from sending or receiving negative nonverbal cues that might escalate the conflict (sender effect) and use cognitive resources that would have otherwise been spent monitoring facial expressions and gestures to produce repair attempts (channel effect). Due to these affordances, mediated communication users potentially have a greater opportunity to initiate repair attempts and prevent the conflict from spiraling out of control. Because repair attempts and mediated communication facilitate effective conflict communication, it is likely that mediated channels strengthen the positive relationship between repair and effective conflict communication. Therefore, the following hypothesis is proposed:

H2: Individuals who use mediated communication in couple conflict will experience a stronger positive relationship between repair and effective conflict communication than those who use FtF communication in couple conflict.

Reduced Flooding, Repair Attempts, and Relational Satisfaction

Not all attempts at repair are successful. Gottman's (1999) sound relationship house theory predicts that the quality of couples' friendship should determine how successful repair attempts are. The rationale for this theory is that the more satisfied couples are in their relationship, the more they perceive their partners' repair attempts as positive, per sentiment override (Weiss, 1980). Sentiment override posits that the more satisfied individuals are in their relationships, the more positive they perceive their partners' behavior to be regardless of their partners' actual behavior. Conversely, the less satisfied couples are in their relationship, the more they perceive their partners' positive actions such as repair attempts as negative.

It is well established that the nature of relationships influences conflict perceptions. For instance, a review of empirical studies has shown that individuals in nondistressed marriages are more likely to make internal attributions for their partners' positive conflict behaviors, whereas individuals in distressed marriages are more likely to make external attributions for their partners' positive conflict behaviors (Bradbury & Fincham, 1990). Similarly, satisfied dating couples accord their partners more responsibility for positive behaviors and less responsibility for negative behaviors (Fletcher, Fincham, Cramer, & Heron, 1987), and relational satisfaction has been shown to predict married couples' attributions for their partners' conflict behavior 18 months later (Fincham, Harold, & Gano-Phillips, 2000; Karney & Bradbury, 2000). It is likely that relational satisfaction moderates the impact of channel, flooding, and repair on effective conflict communication.

This study proposes a moderated mediation model for effective conflict communication such that the indirect effect of channel on effective conflict communication through flooding and repair depends on individuals' degree of relational satisfaction. It is expected that individuals with higher levels of relational satisfaction and who use mediated communication experience more repair, less flooding, and more effective conflict communication than individuals who use primarily FtF communication in couple conflict. Therefore, the following hypotheses are proposed:

H3: *Flooding mediates the relationship between channel and effective conflict communication depending on relationship satisfaction such that individuals with greater relational satisfaction who use mediated communication experience less flooding and more effective conflict communication than those who use FtF communication.*

H4: *Repair mediates the relationship between channel and effective conflict communication depending on relationship satisfaction such that individuals with greater relational satisfaction who use mediated communication experience more repair and effective conflict communication than those who use FtF communication.*

Method

Sampling Procedure

To explore the impact of channel, flooding, repair, and relational satisfaction on effective conflict communication, a national sample of dating and married couples was recruited through Qualtrics after receiving approval from the institutional review board. Qualtrics partners with more than 20 sample providers to supply a network of diverse, quality respondents. Sample partners maintain full psychodemographic profiles on respondents and randomly select respondents for surveys for which respondents are likely to qualify. Potential respondents are invited to surveys in various ways such as e-mail, a panel portal, and text messages. Invitations include the length of the survey and incentives for taking the survey, such as cash, airline miles, gift cards, redeemable points, charitable donations, sweepstakes entrance, and vouchers. To avoid self-selection bias, survey invitations do not include specific details about the content of the survey and are kept very general. Qualtrics collects dyadic data using the same survey link for both partners. To ensure that both partners participate in the study, Qualtrics analyzes each dyad's data for duplicate entries. Members of couples who report identical demographic information (e.g., gender, age, race, and education) are not included in the final data set. Members of couples are also instructed to complete the survey in private.

Several screener questions were used to recruit couples for this study. Invitations were sent to one member of the dyad, but only individuals who affirmed that both members of the couple would participate in the study were allowed to participate. To reduce memory bias, only couples who engaged in a conflict discussion with their partner in the last 24 hours were allowed to participate, because the longer people wait to recall information, the more inaccurate they report information (Sudman & Bradburn, 1973). To ensure that dyads were reporting on the same conflict discussion, only couples who reported the same conflict topic and reported using the same channel for the majority of their conflict discussion qualified for the study. Quota sampling was used to maintain equal numbers of couples using primarily mediated communication or FtF communication in their conflict discussion.

Of the 895 members of couples who initiated the survey, 111 couples finished the survey (12.40%). The low response rate was due to the difficulty of getting both partners to participate in the study. Two couples who reported that they used two different channels in their recent conflict discussion were not included in the final analysis, bringing the sample size from 111 dyads to 109 dyads. The response time for this study ranged from 10.75 minutes to 22.77 hours, with a mean of 65.66 minutes or 1.09 hours (SD = 161.48 minutes or 2.69 hours). Qualtrics screened out respondents who completed the survey in less than 10 minutes. The survey assessed the channel couples used the most during their most recent conflict, flooding, repair, relational satisfaction, effective conflict communication, and demographic information.

Participants

In total, 109 dyads (N = 218) were included in the final analysis: 99 male-female couples, eight female-female couples, and two male-male couples. Ages ranged from 23 to 82 years (M = 43.50, SD = 13.56). Participants primarily identified as White (72.5%), followed by Hispanic (10.1%), Black or African American (8.7%), Asian (7.3%), American Indian or Alaskan Native (0.5%), and Other (0.9%), such as American. The largest subset of participants had completed a four-year college degree (38.1%), followed by some college (20.6%), a master's degree (15.1%), high school (11.9%), a two-year college degree (7.3%), a professional degree (JD, MD; 5.0%), a doctoral degree (1.4%), and less than high school (0.5%). Couples' relationship length ranged from seven months to 47 years (M = 14.22 years, SD = 12.40 years). Most participants were married (86.7%), followed by never married (9.2%), divorced (2.8%), separated (0.9%), or widowed and now in a committed relationship (0.5%).

Procedure

Individuals completed an online survey about their most recent conflict with their partner. The majority of individuals agreed (40.4%) or strongly agreed (21.1%) that their topic of disagreement was very serious. Individuals' perception of conflict seriousness was significantly greater than the midpoint of a 5-point scale, $t(217) = 11.64$, $p < .001$ (M = 3.48, SD = 1.24). Moreover, there were no significant differences in individuals' perceptions of the seriousness of their conflict topic between mediated communication (M = 3.46, SD = 1.27) and FtF communication, $t(216) = 0.22$, $p = .82$ (M = 3.50, SD = 1.22). Couples did not use one channel over the other based on topic seriousness. Couples, however, reported that their conflict discussion took longer using mediated communication (*M* = 80.88 minutes, *SD* = 157.81 minutes) than using FtF communication (*M* = 38.65 minutes, *SD* = 51.67 minutes), $t(126) = 2.68$, $p = .01$.[1] This is in line with social information processing theory that states mediated communication takes longer than FtF communication (Walther, 1992). Members of couples reported using more than one mode of communication in their conflict discussion, such as FtF communication (71%), text messaging (48%), the phone (12%), video chat (3%), and e-mail (4%). However, when members of couples were asked what mode of communication they *primarily* used in their serious conflict with their partner, they reported using either FtF communication or mediated communication. As stated, quota sampling was used to maintain equal numbers of couples using primarily mediated communication or FtF communication in their conflict discussion.

Measures

Confirmatory Factor Analysis

A confirmatory factor analysis using iterated centroid estimation from the lessR package (Version 3.8.9; Gerbing, 2019) in R tested the four-factor measurement model (flooding, repair, relational satisfaction, and communication effectiveness) for internal consistency and parallelism. The initial output indicated poor fit of the model, with the number of absolute residuals greater than 0.05 = 420 and the proportion of absolute residuals greater than 0.05 = 0.37. The initial fit statistics from Lavaan 0.6-5 (Rosseel, 2019) for R with maximum likelihood estimation are: root mean square error of approximation = .07, $p < .001$; comparative fit index = .84; and standardized root mean square residual = .05. Items with large residual errors were removed for each factor until the number of absolute residuals greater than 0.05 = 51 and the proportion of absolute residuals greater than 0.05 = 0.20 to retain as many items as possible and achieve good fit statistics. After removing 10 flooding items (66% of the items), 13 repair items (65% of the items), and two communication effectiveness items (25% of the items), the respecified model provided good fit for the data: root mean square error of approximation = .05, $p = .16$; comparative fit index = .96; and standardized root mean square residual = .04. Details of the 23 items that were retained for the final analysis, descriptive statistics, and reliability statistics are presented below. All scale responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*) unless otherwise stated. Higher scores represent greater agreement or amount.

Channel

The primary channel couples used during conflict was assessed by asking individuals what mode of communication they used the most in the most serious conflict they had had with their partner in the last 24 hours. A little over half of the participants reported they used primarily FtF communication (51.4%), followed by text messaging (42.4%), e-mail (3.7%), and voice communication (2.8%). To perform the analysis, communication channel was effect-coded (FtF communication = .5, and mediated communication/text messaging, e-mail, and voice communication = −.5).

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[1] Because Levene's test indicated unequal variances ($F = 8.65$, $p = .004$), degrees of freedom were adjusted from 216 to 126.

Flooding

Five items assessed flooding, or the feeling of being overwhelmed by negative emotions (Gottman, 1999). Example items are: "I felt overwhelmed by our argument," "My partner's negativity came from out of nowhere," "I felt like running away after the conflict," and "Small issues suddenly became big ones" (α = .86; M = 2.65; SD = 1.15).

Repair Attempts

Seven items assessed repair attempts, or actions that prevent negative conflict interactions from escalating out of control (Gottman, 1999). To ensure respondents answered items about their most recent serious conflict with their partner, the question stem asked participants to indicate the degree to which they agreed with each of the statements in regard to the most serious conflict that they had had with their partner in the last 24 hours. Example items are: "When I comment on how we could communicate better, my partner listens to me," "When emotions run hot, expressing how upset I feel makes a real difference," and "If I keep trying to communicate, it will eventually work" (α = .92; M = 3.65; SD = 0.95).

Relational Satisfaction

Five items from Rusbult, Martz, and Agnew's (1998) relational satisfaction scale assessed the "positive versus negative affect experienced in a relationship" (p. 359). Per Rusbult et al., only the global satisfaction items were used in the final analysis. Example items are: "I feel satisfied with our relationship," "My relationship is close to ideal," "Our relationship makes me happy," and "Our relationship does a good job fulfilling my needs for intimacy, companionship, etc." (α = .95; M = 3.95, SD = 1.07).

Effective Conflict Communication

Six bipolar adjectives from Spitzberg's (1982) semantic differential communication effectiveness scale assessed effective conflict communication, or the degree to which interactants accomplished their communication goal. Individuals were asked how effective their most serious conflict discussion was with their partner in the last 24 hours. Example items include ineffective/effective, inadequate/adequate, unsuccessful/successful, useless/useful, and disadvantageous/advantageous. Responses ranged from 1 to 7 (α = .95; M = 4.75; SD = 1.63).

Covariates

To control for spurious effects, several covariates were assessed: conflict intensity, length of conflict, marital status, length of relationship, and demographic characteristics, such as age, education, gender, and race.

Results

To prepare the data for analysis, all the variables were grand-mean-centered to aid interpretation (Cohen, Cohen, West, & Aiken, 2003). The data were analyzed using multilevel modeling to account for the interdependence of the dyadic data. The intraclass correlation for effective conflict communication is $r = .75$, $p < .001$, suggesting nonindependence in the data. To determine covariates, the researcher computed bivariate correlations between potential continuous covariates and each outcome variable (effective conflict communication, flooding, and repair), a point biserial correlation between gender and each outcome variable, and an independent-samples Kruskal-Wallis test for the categorical variables marital status, race, and education. The distribution of effective communication was not the same across categories of education ($x^2 = 16.31$, $p = .01$), and correlations were also significant between effective communication and conflict length ($r = -.22$), conflict intensity ($r = -.25$); flooding and relationship length ($r = -.19$), conflict intensity ($r = .37$), and age ($r = -.22$); and repair and conflict intensity ($r = -.27$). Thus, all the significant covariates were included in the analysis.

The first hypothesis predicted that individuals who use mediated communication in couple conflict will experience a weaker negative relationship between perceived flooding and effective conflict communication than those who use FtF communication in couple conflict. The actor–partner interdependence model examined how each partner's degree of flooding related to the other partner's perception of effective conflict communication. The model controlled for age, education, relationship length, conflict intensity, length of conflict, and relational satisfaction. As shown in Table 1, the interaction between actor flooding and channel on effective conflict communication was significant, $b = -.36$, $t(193) = -2.18$, $p = .03$, as was the association between actor flooding and effective conflict communication, $b = -.29$, $t(194) = -3.04$, $p = .003$, and the association between partner flooding and effective conflict communication, $b = -.17$, $t(194) = -2.07$, $p = .03$.

The relationship between flooding and effective conflict communication was stronger for actors than for partners. The more flooding people experience during conflict, the less effective conflict communication they report. The interaction between partner flooding and channel on effective conflict communication was not significant ($p = .48$), nor was the main effect of channel on effective conflict communication ($p = .19$). For parsimonious reasons, partner flooding and the interaction between partner flooding and channel on effective conflict communication were removed from the model before probing the interaction.

A simple slopes analysis revealed that the conditional effect of flooding on effective conflict communication was significant only during FtF communication, $b = -0.47$, $t(197) = -3.77$, $p < .001$. Individuals who used FtF communication ($b = -.47$, $p < .001$) experienced a stronger negative relationship between flooding and effective conflict communication than those who used mediated communication ($b = -.11$, $p = .35$). Individuals who used FtF communication reported more effective conflict communication during lower levels of flooding and less effective conflict communication during higher levels of flooding. Mediated communication did not moderate the relationship between flooding and effective conflict communication. The data do not support H1.

Table 1. Estimates for a Multilevel Model of Flooding, Channel, and Effective Conflict Communication (H1).

Fixed effects	β	*b*	*SE*	*df*	*t*
Intercept		5.45	0.47	176	11.46**
Age	−.15	−0.01	0.00	145	−1.95
Education	−.00	0.00	0.05	193	0.14
Relationship length	.05	0.00	0.00	124	0.64
Conflict intensity	−.01	−0.02	0.07	192	−0.27
Conflict length	−.11	−0.00	0.00	119	−1.68
Relational satisfaction	.37	0.56	0.10	202	5.59**
Channel	.09	0.31	0.23	103	1.31
Actor flooding	−.20	−0.29	0.09	194	−3.04**
Partner flooding	−.12	−0.17	0.08	194	−2.07*
Actor flooding × channel	−.12	−0.36	0.16	193	−2.18*
Partner flooding × channel	.04	0.11	0.16	192	0.70
Random effects		Estimate	*SE*	*LL*	*UL*
Residual		0.48	0.06	0.36	0.64
Dyad intercept		1.00	0.18	0.70	1.42

Note. LL = lower limit; *UL* = upper limit. * $p < .05$. ** $p < .01$.

The next hypothesis predicted that individuals who use mediated communication in couple conflict will experience a stronger positive relationship between repair attempts and effective conflict communication than individuals who use FtF communication in couple conflict. Again, the researcher used the actor–partner interdependence model for the analysis and controlled for the same variables as in the first analysis. As shown in Table 2, the interaction between actor repair and channel on effective conflict communication was not significant ($p = .13$), nor was the interaction between partner repair and channel on effective conflict communication ($p = .12$).

The next two hypotheses, H3 and H4, predicted a moderated mediation effect such that the indirect effect of channel through repair and flooding on effective conflict communication depends on relational satisfaction. In other words, repair and flooding mediate the relationship between channel (antecedent) and effective conflict communication (outcome) contingent on whether relational satisfaction (moderator) interacts with channel (antecedent) on repair and/or flooding (mediators). Because the data are dyadic and not independent, multilevel mediation analysis with maximum likelihood estimation, using a 2-1-1 design with only random intercepts, was used to test these hypotheses. Multilevel mediation analysis extends the classic mediation model that assumes independent observations to clustered data by using multilevel modeling. The researcher used the MLmed macro to conduct the analysis (Rockwood & Hayes, 2017). MLmed uses a normal-theory test and Monte Carlo confidence intervals with 10,000 samples to assess indirect effects. Uncentered variables were used in the mediation analysis because MLmed estimates within-group effects by within-group centering variables prior to the analysis, and between-group effects are estimated using group means as outlined in Zhang, Zyphur, and Preacher (2009). The model included the maximum number of covariates: conflict length, conflict intensity, and age.

Table 2. Estimates for a Multilevel Model of Repair, Channel, and Effective Conflict Communication (H2).

Fixed effects	β	*b*	*SE*	*df*	*t*
Intercept		5.58	0.45	175	12.26**
Age	−.17	−0.02	0.00	142	−2.32*
Education	−.03	−0.04	0.05	200	−0.77
Relationship length	.16	0.00	0.00	126	2.03*
Conflict intensity	−.01	−0.02	0.07	198	−0.37
Conflict length	−.13	−0.00	0.00	119	−2.03*
Relational satisfaction	.22	0.33	0.11	202	2.93**
Channel	.08	0.28	0.22	104	1.26
Actor repair	.30	0.51	0.12	183	4.03**
Partner repair	.22	0.38	0.11	175	3.46**
Actor repair × channel	.09	0.33	0.21	175	1.51
Partner repair × channel	−.09	−0.33	0.22	174	−1.53
Random effects		Estimate	*SE*	*LL*	*UL*
Residual		0.49	0.07	0.37	0.65
Dyad intercept		0.83	0.15	0.57	1.20

Note. LL = lower limit; *UL* = upper limit. * $p < .05$. ** $p < .01$.

There was a positive association between partner repair and effective conflict communication, $b = 0.38$, $t(175) = 3.46$, $p = .001$, and between actor repair and effective conflict communication, $b = 0.51$, $t(183) = 4.03$, $p < .001$. One's own perception of repair attempts is more strongly related to effective conflict communication than one's partner's perception of repair attempts. The data do not support H2.

The interaction between channel and relational satisfaction on repair was significant, $b = .25$, $SE = 0.08$, $t(212) = 2.90$, $p = .004$. Thus, the channel did have different effects on repair, depending on an individual's relational satisfaction. As such, there was evidence of moderated mediation, 95% CI [0.06, 0.41], $b = 0.22$, and mediation for repair, 95% CI [−1.57, −0.15], $b = -0.80$, $SE = 0.35$, $z = -2.26$, $p = .02$, but not for flooding, 95% CI [−0.05, 0.20], $b = 0.04$, $SE = 0.06$, $z = 0.76$, $p = .48$. The relationship between channel and effective conflict communication is mediated by repair, and this mediation effect depends on relationship satisfaction.

Results also revealed a main effect of channel on repair, $b = -0.91$, $t(203) = -2.50$, $p = .01$. Given the coding scheme, users reported more repair using mediated communication (effect code = −.5) than when using FtF communication (effect code = .5). There was also an association between relational satisfaction and repair, $b = 0.50$, $t(214) = 11.41$, $p < .001$. The more relational satisfaction people reported, the more repair attempts they reported. The relationship between repair and effective conflict communication was also significant, $b = 0.88$, $t(108) = 5.73$, $p < .001$. The more repair attempts people reported, the more effective conflict communication they reported. The main effect of channel on effective conflict communication was not significant ($p = .40$). A respecification of the model without flooding provided better model fit (Model 1 Akaike information criterion = 1,645.04; Model 2 Akaike information criterion =

1,076.54). The best-fitting model does not include flooding as a mediator. Flooding was removed from the model before probing the interaction.

A simple slopes analysis of the interaction between channel and relational satisfaction on repair revealed that the conditional effect of channel on repair was statistically significant when individuals had relatively high or relatively low levels of relational satisfaction. Among individuals in the 84th percentile of relational satisfaction, the conditional effect of channel on repair was significant (b = 0.35, p = .02, indirect effect = .37, p = .02); among individuals in the 70th percentile of relational satisfaction, the conditional effect of channel on repair was significant (b = 0.30, p = .03, indirect effect = .30, p = .04); but among individuals in the 65th percentile of relational satisfaction, the conditional effect of channel on repair was not significant (b = .26, p = .05). It was not until individuals were in the fifth or lower percentile of relational satisfaction that the conditional effect of channel on repair was again significant (b = −.51, p = .03, indirect effect = −.54, p = .03). Given the coding scheme, it appears that people with very low levels of relational satisfaction used mediated communication for repair, whereas people with very high levels of relational satisfaction used FtF communication for repair. In turn, these repair attempts facilitated effective conflict communication. The data do not support H3 or H4.

Discussion

This research examines the influence of face-to-face and mediated communication on effective conflict communication among married and dating couples, and whether flooding and repair were mechanisms for effective conflict communication. Couples who reported using primarily FtF communication in their most recent conflict discussion experienced a negative relationship between flooding and effective conflict communication. This relationship was not significant for couples who used mediated communication, suggesting that mediated communication might buffer the negative effect of flooding on effective conflict communication. Repair also mediated the indirect effect of communication channel on effective conflict communication for individuals with relatively low and relatively high levels of relational satisfaction. This effect suggests that mediated communication facilitates repair among dissatisfied couples, and FtF communication facilitates repair among satisfied couples. Overall, this study emphasizes the importance of channel, reduced flooding, repair, and relational satisfaction for effective conflict communication.

The literature is clear that flooding has a negative impact on couple conflict. Per the theory of marital dissolution and stability (Gottman, 1993), couples who experience more flooding in conflict decline in marital happiness over time due to isolating and distancing themselves from each other in response to flooding during conflict (Levenson & Gottman, 1985). The data from this study corroborate the premise behind the theory of marital dissolution and stability in that the results show a negative relationship between flooding and effective conflict communication, affirming the negative impact of flooding on couple conflict.

At the same time, the data suggest that mediated communication might buffer the negative impact of flooding on effective conflict communication (H1). Contrary to the prediction, individuals who used mediated communication in couple conflict did not experience a weaker negative relationship between flooding and effective conflict communication than those who used FtF communication in couple conflict. Rather, individuals who used mediated communication in couple conflict experienced no relationship between flooding and effective conflict communication, whereas couples who used FtF communication in couple conflict experienced increases and decreases in effective conflict communication depending on the degree of flooding they experienced in the conflict. The data suggest that mediated communication might be beneficial in couple conflict, because it appears to prevent the negative impact of flooding on effective conflict communication altogether.

These results are consistent with previous research that has examined the impact of mediated communication on couple conflict. Research has shown that members of couples report less arousal and domination (i.e., attempts to control and "win" the argument) in couple conflict when they use mediated communication than when they use FtF communication (Makki, 2019). Moreover, these same members of couples report greater levels of separation (i.e., mutual attempts to separate and "cool off") when they use FtF communication than when they use mediated communication in couple conflict. It is possible that mediated communication performs a neutralizing function for couple conflict, while FtF communication performs a growth function. The reduced cue and asynchronous nature of mediated communication might prevent couples from experiencing the deleterious effect of flooding in conflict by reducing couples' exposure to cues that can activate arousal and flooding. The data also suggest that FtF communication can be helpful or harmful in couple conflict depending on one's tendency to experience flooding during conflict. For partners who experience flooding during conflict, it might be beneficial to use mediated channels, or to take breaks during conflict if mediated communication is not possible. On the other hand, for partners who do not experience flooding during conflict, it might be beneficial to use FtF communication during conflict.

These results are consistent with the hyperpersonal model in the broad sense that the model asserts that individuals experience favorable outcomes using mediated communication due to interrelated sender, channel, receiver, and feedback effects. In accordance with the sender effect, senders who used text or voice communication could have masked nonverbal cues that might have revealed undesirable affect or attitude, giving partners less reason to become upset and escalate the conflict. In line with the channel effect, couples could have redirected the cognitive resources they would have otherwise used to coordinate FtF conversations to produce more thoughtful messages and reduce conflict escalation. Moreover, receivers using mediated communication might have viewed the conflict as less intense because they received fewer negative cues and more thoughtful messages. Overall, these effects might have attenuated the negative relationship between flooding and effective conflict communication in mediated communication. Future research could assess the degree to which each of these interrelated effects contributes to communication outcomes in couple conflict.

The significant results of the moderated mediation model are surprising, because they are the opposite of what was predicted (H4). The hypothesis predicted that repair would mediate the indirect effect between channel and effective conflict communication, such that individuals with higher levels of relational satisfaction who used mediated communication would report more repair and effective conflict communication than those who used FtF communication. The data reveal that repair mediated the indirect effect of channel on effective conflict communication depending on relational satisfaction, as expected. However, unexpectedly, individuals with higher levels of relational satisfaction reported more repair and effective conflict communication when they primarily used FtF communication, and individuals with lower levels of relational satisfaction reported more repair and effective conflict communication when they primarily used mediated communication in couple conflict. Although surprising, the data are in line with one of the predictions of the communication orientation model (Swaab, Galinsky, Medvec, & Diermeier, 2012).

The communication orientation model posits that the relationship between communication channel and negotiation outcomes is moderated by communication orientation. The model predicts that individuals with noncooperative orientations (i.e., people who are concerned only for themselves) experience more effective outcomes when they use asynchronous (versus synchronous) communication and/or nonvisual (versus visual) communication, because these forms of mediated communication reduce access to cues that increase competition and detract from positive outcomes. This proposition of the model is consistent with this study's results in that less-satisfied couples reported more repair and effective conflict communication when they used mediated communication than when they used FtF communication. However, this model falls short of explaining why satisfied couples reported more repair and effective conflict communication when they used FtF communication, because the model predicts that people with cooperative orientations (i.e., people who have high concern for their partners and themselves) experience the same outcome across channels due to sentiment override. This study's results are also inconsistent with experimental research that has found that satisfied couples who use asynchronous media in couple conflict report more positive appraisals of the conflict than do dissatisfied couples (Kashian & Walther, 2018). More research is needed to explain and duplicate these findings.

The results also support Gottman's (1999) sound relationship house theory, which asserts that relational satisfaction is an important factor for successful repair attempts and effective conflict communication. Off-line research has shown that the more relational satisfaction individuals have, the more they engage in repair and experience effective conflict communication (Gottman et al., 2015). At the same time, these relationships appear to be complicated by the channel that couples primarily use in conflict.

Notably, flooding did not mediate the relationship between channel and effective conflict communication, nor did relational satisfaction moderate the relationship between channel and flooding in the moderated mediation model (H3). This finding is consistent with previous longitudinal research that has shown the more flooding couples experience during conflict, the more their marital satisfaction declines over time regardless of their initial levels of relational satisfaction (Levenson & Gottman, 1985).

This study is not without limitations. First, the data are from a cross-sectional survey, so the results are correlational and not causal in nature. There could be spurious effects influencing the outcome variable despite the covariates used in the study. Future research could employ an experimental design to examine causality. Another limitation is the nature of the conflict studied. It is unknown whether the conflict couples reported on were serial conflicts that can be managed over time and through multiple channels. Future research could employ a longitudinal design to examine potential serial conflicts and channel use. It is also possible that individuals used different channels to accomplish different goals in couple conflict. Future research could incorporate a multiple goals perspective to couple conflict. Breaks in the conflict discussion were not measured in this study, although part of the rationale states that the asynchronous nature of texting and the reduction of cues using voice communication can facilitate natural breaks in negative affect. To test this notion, future research could ask members of couples whether and for how long they take breaks during conflict.

An additional limitation is that the sample only included people who reported relatively high relational satisfaction. Couples who broke up or whose relationship was seriously damaged by the recent argument likely did not participate in the study. The results might have been different if the survey had included people who ended their relationship during the conflict or within the 24-hour period. The current study's results are limited to those whose relationships were still intact and not harmed. Additionally, the number of items that were removed from Gottman's (1999) flooding and repair scales to obtain model fit was relatively high given that these scales are published. Over 50% of the flooding and repair scale items were removed after a confirmatory factor analysis tested the fit of the four-factor model (flooding, repair, effective communication, relational satisfaction). Because there were a large number of absolute residuals (i.e., the difference between the observed and the predicted correlations), it is likely that the data contained a large amount of sampling error. Although Gottman's (1999) flooding and repair scales have been used in previous couple research (e.g., Cornelius, Shorey, & Beebe, 2010; Hooper, Spann, McCray, & Kimberly, 2017), confirmatory factor analyses do not appear to have been conducted, or results are not reported or have been sparsely reported. Future research would benefit from further factor analyses on the flooding and repair questionnaires to understand the nature of the inconsistency in these scales.

Moreover, because participants responded based on the mode of communication they used the most in their most serious conflict with their partner, this might introduce bias into the design if, for example, a participant used 51% FtF communication and 49% e-mail. Future research could use a diary study to assess the exact use of each channel in couple conflict interaction. Last, the choice between FtF and mediated communication is often made by the conflict initiator. It is possible that the hypothesized effects are about the conflict initiator's choice of medium, though research has shown that individuals report initiating conflict with their partners' preferred mode for conflict management in mind (Scissors & Gergle, 2013).

This study contributes to research on mediated couple conflict. The results affirm that relational satisfaction is an important factor for effective repair attempts and effective conflict communication, that flooding has a negative impact on effective conflict communication, and that mediated communication has the potential to be advantageous in couple conflict by way of reduced flooding and increased repair attempts among individuals who are relatively less satisfied. More research is needed to advance understanding about the impact of mixed media on couple conflict.

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Found Footage and the Speculative Economy of Attention

SUNGYONG AHN
University of Illinois at Urbana-Champaign, USA

Found footage as a recent film genre reflects the irony of human attention; the more augmented it is by the technologies such as portable video cameras and other sensor devices, the more edges its restricted focus rediscovers. Monetizing the paranoiac affects aroused by something felt at these edges, but not identifiable by the camera operator's limited resources to intervene, this new horror genre exemplifies a recent tendency in attention economy, which this article terms "the speculative economy of attention." The attention we pay to our surroundings through many self-tracking technologies is capitalized not only as the attention per se for advertising revenues, but also as what overvalues the horror of hidden problems in its peripheries.

Keywords: found footage, attention economy, affect, postcinema, sensor network, surveillance

Paranormal Activity (Peli, 2007) and *The Blair Witch Project* (Myrick & Sanchez, 1999) are often considered the two most essential contributions to found footage's establishment as a film genre in the early 21st century. Alongside their unexpected box office success, both films' employment of portable video technologies as a means of extracting something photogenic from every quarter of reality has been cited as foundational of the genre's cinematic form (Heller-Nicholas, 2014; Och, 2015; Sayad, 2016). Something that has not been discussed, however, is how their conversion of material realities, now embedded with numerous video cameras, into ever-expandable filmic spaces suggests a cognitive condition for the genre's typical supernatural contents to be witnessed everywhere: from a domestic setting in San Diego recorded by a immobile camcorder to a desolate forest near Burkittsville, Maryland, recorded by student filmmakers on a shaky handheld camera. *Paranormal Activity*'s iconic long take surveillance footage is noteworthy for the way it locates audiences in front of a monitor, making them hypersensitive to any minute anomalies occurring at the edges of the frame without letting them take proper action—panning, zooming in, or moving to a better angle—to further identify what they perceive (Figure 1).

Sungyong Ahn: sahn19@illinois.edu
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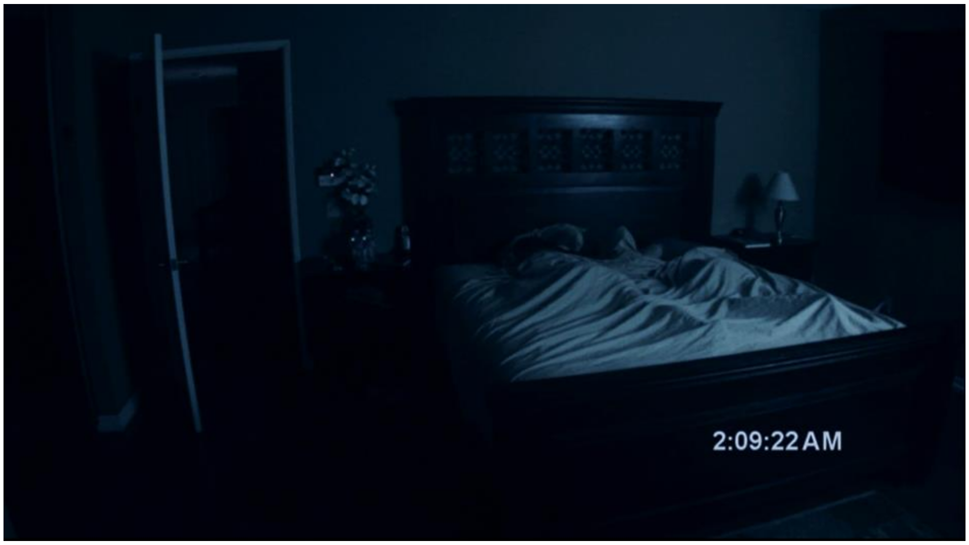

Figure 1. An inactive shot in* Paranormal Activity*.

On the other hand, *The Blair Witch Project*'s handheld movement results from the filmmakers' panicky motor reflexes to the things they see but that are obscured for the audience, leaving too many vectors to reconnect its abrupt cuts into the intended narrative for a documentary (Figure 2). As the two aesthetic signatures of camera operations available in found footage, these moments of demonic emergence expose the genre's self-reflexiveness. Contrary to other classical genres, found footage has established its generic dimension not by sharing a thematic prototype, but by its conscious deployment of a camera's sensorimotor relations to a space according to its redefinition of reality-effect, no longer based on the seamless interconnection of the actions the camera(s) take(s) in different angles. It is the alternative rule for reality-effect; all cameras need to be set up, operated, and moved by a person, not an author or invisible narrator, but standing on the same material footing with cameras and other objects. A shot can, therefore, be closed only by the actions contained in itself, such as a person pushing the record button or an assault on the camera by unknown entities. As the result of this rule's consistent application, a segment of footage displays a tension between the things gradually foregrounded as responding orderly to the actions taken by the cameraperson and the things remaining embedded without eliciting any distinguishable response.

***Figure 2. A disordered-reactive shot in* The Blair Witch Project.**

Even in a shot closed by a camera operator's intentional action, this tension persists as an ambiguous quality sensible, but not identifiable; we can think of this unresolvable tension as now emerging everywhere in our life-world that the ubiquitous surveillance cameras reframe with each narrow focus. As the owners of their own points of view rather than constructed as textual subjects in the continuous editing, the characters in these films ironically discover the uncontrollable always embedded in the periphery of their POV. As a self-reference to the genre's lack of proper means to exorcise the peripheral, the haunting of the spaces conversely reminds us of other genres' institutional means to represent something paranormal through the choreography of multiple cameras and their seamless combination. To reframe what the endings of both films leave unsolved, their sequels, *Paranormal Activity 4* (Joost & Schulman, 2012) and *Book of Shadows: Blair Witch 2* (Berlinger, 2000), indeed reemployed this institutional technique, respectively, through the seamless interoperations of various self-tracking technologies such as video cameras, MacBook webcams, iPhone cameras, and Xbox Kinect, and by simply restoring the institutional solution of continuous editing.

In short, these found footages extract new horror values from the peripheries of a camera operator's restricted attention, and their timely appearance in the early 21st century and coincidence with the wide distribution of portable camera technologies reflect the media system's recent interest in capitalizing on something hidden in these peripheries. The demonic is supposedly lurking at each edge of ubiquitous sensors but is fully identifiable only through the institutional control of the sensors' sophisticated interoperation. From found footage not only as a film genre, but also as the raw output of democratized sensor technologies, represented by lots of "smart" spaces today such as smart body, home, office, and smart city, this article infers a new mode of attention economy that I term speculative economy of attention and argues how it transforms something paranormal, or elusive of our efforts to pay attention, into a novel form of commodity in the new media industry.

Postcinematic Affect In-Between Sensors and Actuators

In the frame of narrative cinema, or its Deleuzian definition as movement-image, we can describe the cinematic form through which the poltergeists possessing the spaces in both films reappear as such: something perceived at the edges of the sensor, but never relocatable to the center by a proper action, thus dischargeable only through the disordered motor responses. Deleuze categorizes cinematic images according to their states in circulation in a nervous system, or a machinic assemblage that consists of mechanical sensors, motors, and human brains. For him, the classical narrative cinema is, most of all, a technological restoration of a brain's sensorimotor representation, in which something perceived acquires subjective meanings as it changes in response to the actions taken by an actor (a camera or character). On the other hand, what he terms affection-image is an intermediary form of delay between perception and action, or that which "surges in the centre of indetermination, that is to say in the subject, between a perception which is troubling in certain respects and a hesitant action" (Deleuze, 1986, p. 65). As a quality remaining unresolved because of the absence of any following actions, the demonic in *Paranormal Activity* in this sense provides an example of affection-image recently emergent from between the machine's fatigueless perception and the human's delayed or "failed" actions to follow it (Hart, 2019). In *Blair Witch*, the demonic, on the other hand, appears to be more active in arousing numerous unorganized actions from the camera operator; in this respect, the affective is also agential in the Spinozian sense as the quality of a shot in a "critical point" at which it "embodies multiple and normally mutually exclusive potentials, only one of which is 'selected'" by an abrupt cut (Massumi, 2002, pp. 32–33). Brian Massumi characterizes "our information-and image-based late capitalistic culture, in which so-called master narratives are perceived to have foundered" (p. 27) as the "surfeit" of affect. According to him, affect is distinguished from emotion as "a subjective content" because it is preindividual and presignification, emergent from the suspension of the sensemaking of images at "the semantic or semiotic level" defined "linguistically, logically, narratologically, ideologically, or all of these in combination, as a Symbolic" (pp. 26–27). The wane of "symbolic efficiency" of the narrative structure in fictional and nonfictional forms of media has revealed the "post-referentiality" of our material reality, which rarely turns clear responses back to the actions for its technical and discursive measurements (Andrejevic, 2013, p. 85). As a result, affect has been generalized as our common responsive state. The timeliness of found footage as a new film genre of the early 21st century can be, in this sense, examined from its redeployment of the geographical distribution of digital cameras as the means to display the affective through its cinematic reemergence between sensor and actuator. Affect has accidentally resulted from the failure in the seamless relay between multitude perceptions and actions of these ubiquitous sensors and actuators, and found footage has exploited this affect as the new resource for filmmaking. In this respect, this new film genre also reflects the media industry's recent strategy to monetize even audiences' failure to pay attention.

In the film theories of the second half of the last century, the cinematic meant the quality effected from the alignment or misalignment of the images montaged together along the concealed actions of machines, such as a shutter's flickering, the camera's movement within a single shot, or its geographical displacement between two shots. Jonathan Beller (2006) says that "the cinematic mode of production," which operationalized the attention economy of the last century, was based on the "separation and expropriation of vision from the spectator" (p. 8) through substitution of this machinic circulation of images for our voluntary motor responses to the field of perception. For him, the cinematic means the neurophysiological extension of the logic of industrial capitalism. He says, "Instead of striking a blow to sheet metal wrapped around a mold or tightening a bolt, we sutured one image to the next (and, like workers who disappeared in the commodities they produced, we sutured ourselves into the image)" (p. 9). In other words, what the expropriation of the kinetic means of perception production in a theater leaves for the audiences to do is invest their "freedom reflex" (or neural plasticity liberated from the physical and geographic constraints of human bodies) into the production of surplus meanings between montaged images according to the imagined motor responses of the coherent/schizophrenic narrative subject. The cinema in the discourse of attention economy during the first decade of this century[1] has been, in this sense, defined by its twofold kinetic operations to create "suspensions of perception" (Crary, 2001)—first by its mechanical operation to translate the field of perception into the images framed in each fragment of celluloid, and second by its embedding imaginary motor responses of normative/schizophrenic subjects within the filmic texts as the software to reprogram attention. As the surplus value in cognition, attention reifies images into something bigger than real, not because audiences add physical labor of motor response to the images, but because they believe that someone behind the camera (such as a protagonist or hidden narrator) is moving his or her body to pay attention to the objects. Attention separated from the intentional motor responses of audiences in front of a screen is instead reinflected through the mechanical or algorithmic relay of images and turned back to the audiences as the attention already given to those images by the actions of imaginary others textually or statistically constructed (especially statistically in Google's PageRank algorithm). The cinematic as the mode of attention production in this sense operationalizes a theory of (re)action that audiences need to internalize.

On the other hand, the surplus of cameras in every corner of our lives and following every move we make, which found footage mobilizes to extract hidden narrative values from the peripheries of attentions, defines another productive mode of attention. "The profound sense of helplessness and paranoia" (Och, 2015, p. 209) characterizing the affects aroused in *Blair Witch* and *Paranormal Activity* is mainly attributable to the person behind the camera not taking proper actions, such as panning and zooming in to follow and recenter the anomalies at the edge. Something is haunting where our attention reaches, but does not return anything to reconstruct a normative subject who would translate the sliding-by images into the rational movements of attention. What becomes productive for unfolding a narrative is instead the audiences' withstanding the images without taking actions in order to charge the circuit between a sensor and actuator with affective feelings. These intensive qualities are dischargeable through the multiple disordered vectors with arbitrary cuts, whose hidden connectivity could be refound only at a meta-level. The new normative subject to rationalize the economy of attention in found footage is not the owner of the gaze

[1] Attention economy was suggested in the late 1990s as the concept to explain the source of "scarcity" that governs the new economy of the cyberspace, whose oft-misconceived resource, information, is always "abundant" and "overflowing" and thus impossible to be a "basis of an economy" (Goldhaber, 1997). On the other hand, the amount of attention that audiences pay to the information is always limited. In the subsequent works of the researchers, such as Jonathan Crary (2001) and Jonathan Beller (2006), to expand the concept's coverage even to the media culture of the early 20th century characterized by the abundance of images and spectacles, cinema has been discussed as a technique to convert the attention into the form measurable and exchangeable in an economy. For the overview of the theoretical discourses on attention economy, see Crogan and Kinsley (2012).

behind the camera, but the archivist whose job is to excavate the fragments of footage and reassemble them for display; an example is the hidden commentator at the beginning of *Blair Witch*, who says, "In October of 1994, three student filmmakers disappeared in the woods. . . . A year later their footage was found."

Let me call this new mode of attention production postcinematic*,* following Steven Shaviro (2009), in that cameras are now the "*machines for generating affect*, and for capitalizing upon, or extracting value from, this affect" (p. 3, emphasis in original). The poltergeists as the sources of the paranoiac affects, whose exhibition values are rediscovered by the archivists at the meta-level, can be then understood as the metaphors for something hidden in the peripheries of our attention, which the attention economy recently attempts to monetize. In this respect, it is not a coincidence that, in a conversation on *Paranormal Activity*, Shaviro relates what the house is possessed by, namely "the demon in the *PA* movies," to "an immense collection of data" performed by the self-tracking technologies in today's smart buildings (Grisham, Jeyda, Rombes, & Shaviro, 2016). Even though we have ownership of all these machines, "It isn't always clear who 'owns' all the data." Like the woman possessed by the demonic being omnipresent in the house of *Paranormal Activity*, our quantified selves generated in real time as our digital double from ubiquitous sensors are, he says, owned mostly by "Google and Amazon" (Grisham et al., 2016). As Cheney-Lippold (2017) says, "In most instances of algorithmic identification, we are seen, assessed, and labeled through algorithmic eyes, but our reaction is often available only to be obliquely felt," and "we may very well feel we are being watched but never see what sees" (p. 24). However, in this reappropriation of the rhetoric of horror film criticism called the return of the repressed, Shaviro overlooks the fact that, in the film, the use of self-tracking technologies for the obsessive data collection is not the demon's means to possess the woman's body, but a part of her husband's attempt to persuade her that there is nothing paranormal. To rationalize the phenomena occurring beside the center of attention, he is willing to share what his camera recorded with a psychic, professional analyst for paranormal activities. However, what he rediscovers even after he "lightened up the footage" artificially with video editing software is the fact that the ambiguous quality of the video typical for surveillance footage becomes even more ambiguous as he pays more attention to the periphery through a technological aid. As Sayad (2016) acutely points out, the husband's belief

> that by turning on the camera when an eerie presence haunts [his wife]'s sleep he can tame and control it establishes an ironic pattern that underscores both the film and its sequels: the act of filming invariably backfires, granting the "monster" access into the characters' lives. (p. 52)

The horror of found footage in this sense shows the irony of the recent democratization of sensor technologies and simple data processing tools. By retrieving these means of attention production, which support the recent streaming culture in which an audience seems to retrieve the power to direct even the attention of others to the action he or she locally takes and broadcasts through a webcam, we also rediscover something para with which we have always shared our spaces—something embedded beside as the stain in the peripheries of attention and withdrawing further beside under our limited tools for data processing, such as the digital zoom to enlarge the images already recorded. It should be refound and rearchived at the meta-level to be reintegrated into the economy of attention. Put differently, something affective or postcinematic in its mode of being appears from the grassroots and needs to be recirculated in the higher level.

The New Low and High

As Gillespie (2000) once pointed out, reality television programming in the late 20th century already provided the platform for these affection-images emergent from ubiquitous sensors to be redeployed in an institutional context, and we can examine this TV genre as having mobilized our affective concern over the peripheral for the emerging new attention economy even before found footage emerged as a film genre.

Neither constructed around the semicircular movements of the camera in a studio nor chasing the actions of journalists, surveillance TV series such as *World's Wildest Police Videos* (1998–2001) and *Real TV* (1996–2001), in Gillespie's (2000) analysis, have a generic form as the collection of "found footage" as "images produced outside of the entertainment television apparatus: workplace surveillance footage, police dashboard camera surveillance, hidden camera footage, amateur home video, and raw television news footage" (p. 37). Whereas this seamful collage of low-tech videos inevitably contains inherent ambiguities, the stacked layers of audio—from "on-camera soundbites from police officers, witnesses, victims" (p. 37) to an expert's comment weaving all of these reports from below together—function in these series to extract multiple vectors from the videos to then interconnect into a narrative describing images stuck within a city's sensor network as pathological and criminological, such as hidden dangers of crime, vandalism, and terrorism. According to Gillespie, the legitimate and illegitimate uses of video cameras for the participatory bottom-up process of surveillance, often called "synopticism" (Andrejevic, 2004) or "sousveillance" (Cascio, 2005), have been defined. In *Video Justice: Crime Caught on Tape* (1997), a special on FOX, the voice of the narrator authorizes footage as a viable use of home video: "a white man being harassed by neighbors about his homosexuality sets up a camera and records himself being brutally attacked"; another is conversely categorized as the deviant use of video technology: "a video made by several black youths as they gleefully drive around Los Angeles shooting paintballs at transients and pedestrians" (Gillespie, 2000, p. 39). These two cases of camera movements—which I term withstanding without action and discharging through unorganized action—represent two poles in a continuum of possible actions that a local sensor device could take, from a complete inaction to a completely disordered reaction, which also expose the affects stuck in-between perception and action of the city's "artificial nervous system" (Hayles, 2016; Hill, 2008) in the forms of paralysis and haphazard responses. If the footage in these cases were intentionally selected to display something affective, unresolvable by a sensor's modular action, the editorial processes of reality television, on the other hand, emphasize the necessity of the discursive control of the expert's voiceover to redeploy something para sensed from below in a sensemaking narrative (which the amateur documentary producers in *Blair Witch* failed to do).

The bottom-up process of surveillance is textually reconstructed by the stacked layers of audio and video in this TV genre, but it is not simply participatory or successful in democratizing the visual pleasure of the panoptic observer. The bottom-up is rather reinterpreted as the institutionalized route for the citizen sensors' concerns for the invisible dangers sneaking around their limited attention to be redirected to the authority accessible to a citywide sensor network, preventing them from jumping to the paranoiac delusion of a demonic network behind. (For instance, the husband's stepwise attempt to bring his footage to a psychic in a town, and then to famous demonologist Dr. Johann Averies in *Paranormal Activity*, is, despite his failure to do so, the only possible cure for his wife's paranoiac jump-to-conclusion regarding the poltergeist.) In this sense, the two modes of video technology, which Fiske (2002) calls videolow and videohigh, are in a new complicity in surveillance TV shows. And along the vertical pipeline through which the producer in the high extracts hidden narrative values from the videos in the low (or along the pipeline that distinguishes found footage as a film genre from surveillance TV shows, in that the former's armature producer always fails to control these videos in the low, whereas the TV producer is always exploitive to these grassroots), affects are now not simply discovered, but cultivated as the resources for the network's sustainable expansion. Regarding this affective quality of videolow, Fiske (2002) says,

> Like the Rodney King video, their lower-quality images, poor but closely involved vantage points, moments of loss of technical control (blurred focus, too-rapid pans, tilted or dropped cameras), and their reduced editing all serve to reveal the discursive control that official news exerts over the events it reports. Videolow shows that events can always be put into discourse differently from videohigh, and this enhances its sense of authenticity. (p. 389)

For Fiske (2002), the authenticity of low-tech video is due mainly to "its user's lack of resources to intervene in its technology" (p. 387). The user, or citizen sensor with "a camera, but not a computer enhancer," could "produce and replay an electronic image, but could not slow it, reverse it, freeze it, or write upon it," and thus the images the user creates appear "so authentic to so many precisely because he could not" (p. 388). His definition of authenticity of mechanically produced images is distinguishable from that of Bazinian realism based on the images perceived and relayed purely by the mechanical action due to a human operator's intentional nonintervention (Bazin, 2005). Authenticity of videolow for him is rather a sort of affective value added to the footage due to the operator's inability or frustrated attempts to intervene in its hidden meanings. Redefined as these mechanical images charged with either meanings or affects according to whether they are successfully redeployed in a citywide surveillance network or still stuck in-between a local sensor and actuator, found footages as videolow proliferating in the recent urban landscape turn out to interface two very different networks beyond our accessibility. First, there is the network of cameras whose simple and modular actions can be reassembled by an institutional agent in an editing room for reality TV programming, or control room for citywide security cameras (Sadowski & Bendor, 2019), and the imaginary network of demonic beings or terrorists the citizen sensors obsessively infer beyond their perceptibility. These two networks are symmetrical; the former's intervention in the low becomes more justifiable as people become more paranoid and jump to conclusions at the presence of these invisible evils beneath the surface. The participatory and democratic form of bottom-up surveillance, which reality TV programming idealizes and monetizes, is in this sense driven by audiences' generalized paranoia, or their self-reflexive and gut feeling that there is always something nonrepresentable left beside their technologically mediated attentions. In other words, for the bottom-up to be agreed on by the participants as the solution for their local issues, it needs to be believed by them: Everywhere is haunted by nowhere in which something demonic is embedded. It is always unclear who really occupies this nowhere, since it constantly moves beside our actions to grasp it. However, for that precise reason, videohigh claims its right to videolow; or mediahigh in the upper layer of cloud servers, such as "Google and Amazon," accessible to not only optical sensors, including webcams, but all kinds of digital sensors, claims ownership of data collected from a user's material lower layer insofar as the problems lurking in the space are too dispersed to be identified by our local action of zooming in. The proper actions to exorcise them are still supposed to be programmed by the high capital, high technology, and high power with enough means to intervene everywhere in a simultaneous and timely manner, just as the expert's voiceover in FOX's special redisposes all the lower layers of video and audio for a sensemaking narrative.

In this respect, the found footage both as a film genre and raw material for surveillance TV series reflects media systems' recent division into the new low and high, whose vertical complicity is strengthened by the problems whose symptoms are distributed too horizontally. For this complicity to be sustainable—in other words, for more symptoms to appear to be identifiable only through their redisposition in the high—the sensor technologies owned by individuals need to be postcinematic in the sense of the term by which Shaviro means machines for generating affect. The most urgent problem for these sensors to put under their local surveillance is something perceived beside their restricted focuses and moving further beside as they take actions to catch up. For capitalizing upon, or extracting value from its constant sidling movements at the bottom, the software at the top should be accessible to these local technologies to trace its escaping vectors (just as a human operator in a control room improvises a multitude of local actions of security cameras to reassemble the ambiguous hints distributed at the edges of each screen into something criminal happening in the city). Media's systems of visibility and statement are restructured along these autonomous sensors with simple modular actions, and their bottom-up process to make statements about what is going on in the space is no longer dependent on the normative actions of anthropomorphic paying attention, through which the mechanical, or algorithmic, relay of images used to be interpreted into something perceived by a hidden subject behind a screen. Instead, the only normativity of the actions in the editing room and control room is the flexibility in reassembling a multitude of small actions in a timely manner. There is nothing behind the cameras for us to internalize as the normative observer of what happens at the peripheries, only the modular actions of the sensors and their algorithmic interoperations, never anthropomorphized by the continuous editing because they are "operatorless" (Sayad, 2016, p. 48).

What, then, are these worldly problems always outside our attentions and thus represented as something demonic by the high? Regarding this question, the rhetoric of the return of the repressed is still helpful in describing the productive mode of repression in the recent attention economy. Attention as the surplus in cognitive production is not simply added to the images as "we sutured one image to the next" (Beller, 2006, p. 9) according to the actions and choices performed by an imaginary normative subject such as the average user algorithmically reconstructed. What should be monetized further in the time where everyone is an editor of one's own attention in the customized software interface is the fear of the marginalized in their limited focus—the generalized concern for the fact that our too human attention leaves too many blind spots. "The sense of lurking danger is enhanced as much by our fear about seeing things as by our anxiety about what we do not see, and the generation of this uncertainty about whether or not we will see anything involves choices in framing" (Sayad, 2016, p. 55). By speculative economy of attention, I mean this new structure of attention economy in which audiences' overvalued concerns over their inattention are speculatively reinvested into their overvalued hope for algorithmic attention. The following interpretations have been nominated for the demons occupying these blind spots overvalued by our inattention, or attention always-not-enough-paid: the danger of terrorism (Massumi, 2015), nonlinearity of environmental changes (Lanzeni, 2016), non-self-recognizable inefficient resource use (Strengers, 2016), and products you are likely to like but unlikely to pay enough attention to (Thaler & Tucker, 2013). As found footage appropriated for a horror genre allegorizes, the urgency of this nowhere is overvalued as a person's local actions to detect it are frustrated repeatedly. On the other hand, the advanced software of surveillance—what the expert narrator in the surveillance TV show allegorizes—is supposed to exorcise this nowhere through its sophisticated redeployment of multitude sensors and actuators, which eventually illuminates the hidden dimension, hitherto felt only affectively, as measurable in terms of statistical patterns. The demons are discovered by the ubiquitous sensors and then reinvented as the problems to be solved by the ubiquitous actuators, just as the unresolved ending of *Paranormal Activity* leaves a problem resolvable by the interoperations of self-tracking technologies in *Paranormal Activity 4*. This is also the reason why, in the era of smartphones embedded with multiple sensors, we need to agree that the applications empowered by cloud servers also have the right to activate a phone for collecting data about what happens to the phone and its user.

John Durham Peters (2015) says, "The cloud evokes ancient ideas of a heavenly record containing everything ever said and done, a record both worldly and infallible. If ever there were a target for old-fashioned Marxist demystification, this would be it" (p. 332). On the other hand, regarding the power of data clouds that the supposedly omnipotent smart artificial intelligence applications are based on today, our resurrected faith in the cloud is rather our rational response to the rediscovered boundary of our restricted subjectivity—beyond which we encounter not only the demonic, but lots of algorithmic beings communicating with each other about the demons on behalf of their human users.

Speculative Economy of Attention

The recent achievement of miniaturizing sensor, processor, and actuator technologies to the point where they can be embedded in a variety of objects in various environments has popularized the adjective smart as applicable to various social spaces of different scales (Crandall, 2010). Now our smart life stems from the awareness of our very standing at the interlocked boundaries of these spaces, each redivided into low and high—such as our physiological, domestic, and urban spaces tracked by different sets of sensors embedded in the lower layers of a smart cloth, smart home, and smart city under the control of different software applications in the cloud servers. We can consider the middle between this new infrastructural low and software-running high as the space for the new market of speculative attention economy to be cultivated, in that the domains of our life, from a body to city, resituated in this gray area are now fully charged with the demonic; this is comparable to the various vital signals under wearable sensors and people's collective behaviors under citywide environmental sensors, elusive from our local monitoring, but detectable through a network of distributed smart objects. The more we feel affective to these flows beside our attention in our generalized concerns for dormant health problems, invisible dangers of violence, or distracting surpluses of information, the more attentions we might delegate to the software application that redirects our attention. "Smart disclosure," a policy to encourage "the release of government information, corporate disclosures, and customer usage data in machine-readable form," can in this sense be understood as a recent government-driven effort to redirect this distracting tendency of digital flows into the algorithmic reorganization of attention through various "choice engines" (Thaler & Tucker, 2013, p. 49). But for these engines in the cloud to be smart enough to draw our attention back to the best choice out of many available consumerist solutions for our worldly well-being (such as better diet, healthcare, housing option, retirement plan), we first need to agree, willingly or reluctantly, with the disclosure of our own social network profiles, online/offline behavior patterns, and the scores of psychometric tests we take consciously or unconsciously online (Stark, 2018)—both to the government and corporate agents, and even to the third-party intermediaries as the prerequisite for all other smart disclosures. And it is through this delegation of attention investment to the attention engines that the problems, which the husband in *Paranormal Activity* attempted to catch in a single camera take, turn out to be in fact stretched along many different domains. To take examples, your heartbeat under the 24/7 monitoring of your smart watch can also be an efficiency problem in the task to find the most optimal behaviors in your house/office/city, just as detecting terrorists can be a problem to find irregular shopping behaviors online. In other words, the algorithms' redirection of our attention back to the urgent problems is potentially never-ending insofar as even a tiny pulsation such as your heartbeat could reappear in many different embodiments along the network, such as your physical states not yet optimal to work out, sleep, have sex, and so forth. Redeployed in the high, these worldly problems are put in the forms not only easy but also necessary to attend to because they are displayed as "push" notifications on your smartphone and smart watch, or spoken directly by a smart speaker in your living room.

The demonic, once the source for the rupture in our habitual identification with a camera's restricted POV in found footage, no longer ruptures the new attention economy because our paranoiac concerns for the invisible problems are now reinvested in the software in the high. Our new technological field of perception appears under algorithmic optics to be full of urgent problems, but what unfolds this problematic space out of databases collected from ubiquitous sensors is neither the simple action we take with our body and camera, nor the imaginary action of the normative subject. It is, rather, unfolded by the sidling movements of the demonic, now redirected to the network of smart sensors and actuators, which translates these affection-images from the low into the images corresponding to the executions of software in the high. For example, the chaotic traffic congestions perceived in each intersection in the low could be recognized from the high as the images corresponding to the collective responses of drivers to the smart traffic lights distributed in a city (Xie & Wang, 2018); your irregular heartbeat perceived by the smart watch on your skin is translated into the image corresponding to your running pace guided by the fitness app in the cloud. In this sense, Deleuze's typology of perception-images, affection-images, and action-images along the images' circulation in a machinic nervous system has now another field of postcinematic application in the wireless sensor and actuator networks in the IoT (Internet of Things)-based smart buildings and cities. Something affective still emerges sporadically within the bottlenecks between sensors and actuators (or perceptions and actions) in the form of the temporal paralysis of software or abrupt discharging through the shutdown of software, reminiscent of *Paranormal Activity* and *Blair Witch*. But these horrible moments are also when the users are asked to invest their affective concerns into the bottom-up process of reporting errors in order to help the developers update the software's capability to further capitalize on the elusive signals.

Rather than being the surplus labor of cognition to add imaginary values to the images attended, our attention in this speculative economy is now capitalized indirectly as its investment delegated to the software ironically overvalues the urgency of problems hidden in the periphery of our attention. The software in the high, on the other hand, exploits the overvalued hope for its algorithmic preemption of the problems at the bottom as what justifies its permanent data collection practice. The motive power for the perpetuation of the attention economy of the past century was audiences' neurophysiological investment of desire for the images they consumed (Terranova, 2012). The speculative economy of attention is, on the other hand, perpetuated by the overvalued dangers to which nobody could pay enough attention—or the overvalued hope for the network of manifold sensors and actuators, which is supposed to redirect our attention back to these urgent problems. As Andrejevic (2013) acutely points out, "Data mining is, in this regard, speculative as well as comprehensive" insofar as "data is captured not solely for current use, but also to take into account the possibility of any and all future scenarios and technologies" (p. 78). The problems expected to lurk in our lives will never be resolved immediately after we purchase a smart watch and move into a smart home in a smart city. But our investment in these technologies is still justifiable insofar as their constant data collection promises a near future in which all these problems are data minable; and thus, until this future comes, we need to delegate our investment of attentions to these sensors everywhere.

Chronicle

Asymmetry can now be understood as the key term that describes the sensorimotor relation through which we are engaged with our surroundings. In mathematics, symmetry means the feature of an object or its properties invariant under certain transformations such as rotation, projection, and displacement. Take our field of perception as this sort of object under constant transformations. The world appearing symmetrical to our perception would be then restricted to the world of objects that return invariant or orderly variant responses to the actions we take with our body and technological sensors under our control. However, the increased number of sensors we are accessible to would not guarantee our more symmetrical engagement in the world, because it would rather redraw the boundary between two worlds in which we are engaged symmetrically and asymmetrically. Even if we could control all the zooming and panning of the webcams and surveillance cameras, we cannot trace all the problems embedded in a space—not just because we cannot monitor all of them simultaneously, but because some of them are traceable only by a sophisticated montage of the cameras' interoperations. (This advanced montage is comparable to the job of a criminal investigator who reconstructs the course of a disastrous event from the ambiguous hints distributed in the surveillance footages, but only after the event already happened.) These problems are asymmetrical to our simple actions, but present to the advanced software in the high capable of reassembling the sensors' worldly operations in an equation of higher degree. Their asymmetries are nevertheless felt as something affective in the low. Until these unknown problems are resymmetrified in the high, we thus need to withstand our staring nowhere without taking any significant action. In this sense, it is the lesson of *Paranormal Activity*: Do not attempt to communicate with the poltergeist, and do not play with a Ouija board before you contact a demonologist. What appears then as our common response to this restraining order is a "paranoid worldview in which everything is hopelessly complex but, with the right (data) tools, can be made deceptively simple and explainable" (Hu, 2015, p. 124). This obsession with hidden orders "buried beneath the surface" (p. 122) of ambiguous symptoms is nevertheless rational insofar as it promises a future where all these esoteric meanings would be explained even though it is infinitely postponed until one discovers the proper algorithms, data analysts, or demonologists. For the audiences of the speculative economy, paranoia is even understood as "a strong theory" because it appears to be "capable of accounting for a wide spectrum of phenomena which appear to be very remote, one from the other" as resulted from "a common source" of danger (Sedgwick, 2003, pp. 133–134). As Ulrich Beck (1992) noted in the 1980s, their paranoiac beliefs in the latent dangers are "oddly immune to the critique of science" because these fatalistic beliefs also earn "their 'truth' and their supporters not before science, but in interaction with [science]" (p. 169), such as environmental science, behavioral science, or data science, whose algorithmic procedures to identify the problems are now reincarnated in the form of smart applications.

A person in found footage, standing behind his or her own camera without paying enough attention or taking proper action to the anomaly occurring at the edge of the frame, is therefore a perfect exemplum of the audiences for the new attention economy, whose persistent investment of attention to somewhere means their investment of undismissable fears to somewhere else. For this person, the demonic is nowhere this person can attend, or everywhere he or she fails to attend, so that its emergence from the peripheries is never rationalized through the anthropomorphized continuous editing and thus needs to be put under the algorithmic perception through ubiquitous sensors. If our asymmetrical engagement to the surroundings is what justifies our decision to delegate our attention to the software to resymmetrify them, the possibility to subvert this new hierarchy can be, on the other hand, thought of from the possibility that the local media users could hijack the software in the high as the means to redefine their affective surroundings not as demonic any longer, but fully charged with potentiality, as the Spinozian affect originally means.

Josh Trank's *Chronicle* (2012), another supernatural found footage film in the early 21st century, can be examined with regard to this subversive possibility. Like many other entries in the genre, *Chronicl*e takes the form of a personal record of supernatural phenomena that three teenagers experience after their encounter with an alien technology. The same aesthetic restriction of the genre, namely all cameras set-up, operated, and moved by a person standing on the same material footing, is consistently applied, but the styles of footages recorded before and after their encounter are significantly different because of the telekinetic superpower they earned from the encounter. This power enables a boy, Andrew, to control the movement and operation of his camera without physically touching it. In the early footages that he records manually, the camera is thus always fixed or held in Andrew's hand (Figure 3). However, this restriction is not simply due to his lack of a technological aid for the more sophisticated camera operations, but to his need to behave as if nothing is recording whenever someone unexpected gets into the frame, such as his father, a street gang, bullies, and the boyfriend of the girl he peeped at a party. He must withstand their harassments rather than warn them about the camera; otherwise, they will take away his camera and break it. Both his inactions and failed actions leave something unresolved within the frame, felt only affectively. On the other hand, after earning the superpower, he does not need to be afraid of taking action, not only because nobody can beat him up any longer, but because the cameras floating up in the air are still fully under the control of his telekinesis. The more skillful he becomes at using his power, the more cinematic his life appears to be in the footage. In the latter half of the film, where his cameras' free floating becomes more sophisticated than any crane shot, the screen, once flattened as a two-dimensional plane typical of other found footage films such as *Paranormal Activity*, eventually appears to be crowded with lots of hidden objects; these objects are not "lurking dangers" any longer, but aligned along the camera's unfolding a deep space reminiscent of institutional cinema.

***Figure 3. An inactive shot in the earlier part of* Chronicle.**

One afternoon after he first used his power to retaliate against bullying, Andrew alone in a junkyard talks to the camera: "A lion does not feel guilty when it kills a gazelle. Right, you do not feel guilty when you squash a fly, and I think that means something. I just think that really means." This "something," once felt only affectively because of the lack of proper action to dramatize it, gets to be concretized into his theory of "apex predator" as his actions now reach everywhere. During his monologue, the camera starting from the close-up of his elated face slowly moves to a wide-angle shot, and at the end of his speech, it reveals the hidden telekinetic cause and effect between the action of his hand to squeeze the air, and the deformation of a junk car in the background. His mobilization of the telekinetic resonance between his surroundings and cameras culminates in its climax for self-narrative when he confronts his buddy Matt in the night air of downtown Seattle. Ignoring Matt's warning against violence, Andrew hijacks dozens of video cameras from the people in a building and surrounds his body with these cameras to record his rebirth as a super human from as many angles as possible (Figure 4); he does so against the city's surveillance network, which translates something affective in the air into the familiar narrative of breaking news (Figure 5). Like a reality television producer, Andrew mobilizes a random set of cameras speculatively wherever he goes, with the expectation that there remain hidden dramatic values still embedded in his home, school, and city: the expectation that would be fulfilled afterward by the anonymous editor who found his footages and reedited them into a chronicle of the emergence of a superhuman/terrorist out of the affective.

Figure 4. A shot cinematized along multiple cameras.

***Figure 5. Surveillance footage in* Chronicle.**

Through the physical relocation of cameras from the low to high, *Chronicle* provides a magical scenario in which an individual's investment of attention to his own life through multiple self-surveillance devices guarantees a high return. The wager Andrew is betting on with the cameras overinvested with his superpower is not like Pascal's wager. According to Pascal, betting on an extremely improbable future event is justifiable insofar as the stake to lose is too high after it occurs by any chance; examples are the existence of afterlife, or the possibility that your house is really haunted, or your neighbor is really a terrorist, or the item Amazon recommends is really important to improve your life. Making these sorts of wagers is rational because to win the race is not to earn the reward, but to lose nothing; if you win, you lose nothing, but if you lose, you lose everything. On the other hand, Andrew's betting on the cameras is to earn everything, to claim his ownership over the data his cameras generate without gauging how many dramatic values are really embedded there.

We can take Andrew's speculative investment of attention in *Chronicle* as an allegory for the early quantified-self movement led by the technology gurus in *Wired* magazine such as Gary Wolf who delegated his attention investment to as many self-tracking devices as available to monitor "every facet of life, from sleep to mood to pain, 24/7/365" (2009, article sub-head), from different angles. Their expectation of the reward from this experimental practice was also very high: namely, to discover the hidden parameters of everyday life for its unprecedented level of optimization and efficiency. However, it did not take long for the air, once opened to their decision to deploy which sensors in which positions, to be black-boxed by the ready-made smart objects and the IoT applications—smart enough to redeploy themselves in the rightest positions, not only to exorcize, but also to monetize the inoptimality and inefficiency in their users' life. In consequence, affect becomes once again the most immediate response of humans to the world under new media's 24/7/365 surveillance and to their own body revealed to be possessed by lots of unknown problems out of their conscious control. As reported by many self-tracking users today, "a lack of ability to self-regulate" (Lupton, 2016, p. 62), or our asymmetrical engagement even to ourselves, is what people find first from their selves quantified by self-tracking devices. This generalized asymmetry as the rediscovered human relation to one's own surroundings—whose hidden levels reappear symmetrical only to the advanced data mining applications—is the reason for "an obsession, compulsion or 'addiction' with one's data to the exclusion of other aspects of one's life" (p. 64).

In this respect, the telekinesis in *Chronicle* suggests a magical solution to put this commercialized air, or cloud, back under the control of an individual to mobilize it for his self-narrative. The open-source movement and computational literacy may be the keys to reopen this black box, but how to realize the film's magical solution through viable technologies is still an open question.

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Populist Time: Mediating Immediacy and Delay in Liberal Democracy

HENRIK BØDKER
Aarhus University, Denmark

CHRIS ANDERSON
Leeds University, UK

The conduct of politics is, in part, constructed by conceptions of time, and this happens through an interplay between mechanisms of governance and different media systems and technologies. This article argues that we are witnessing an increasing divergence between the mechanisms of delay built into liberal democracy and a "politics of impatience" that is part of a larger populist communications style. Furthermore, we contend that social media—particularly Twitter—help pave the way for this growing populist impatience, creating what we label "populist time." In theoretical terms, the article draws on journalism studies, on research on social media and populism, on mediated time, and, finally, on the temporalities of democratic governance. Our contribution is to bring these literatures together in order to posit three distinct building blocks for the formation of populist time, which are part of the communication on Twitter: feelings of "realtimeness," "unmediation" and "impulsivity." This article thus aims to suggest conceptual building blocks for more nuanced investigations of how temporal processes and perceptions play into the performance of populism on social media.

Keywords: mediated time, populism, social media, realtimeness, unmediation, impulsivity

This article interrogates issues related to the intersection of political and mediated temporalities by positing that social media have certain characteristics that lend themselves to the construction of what we call *populist time*, which, we argue, is to be seen as a political communication style focused on acceleration.[1] While we are not alone in relating populism to social media—Gerbaudo (2018), for instance, talks about an "elective affinity" between social media and populism—our contribution is to approach this affinity as an intersection between technological and political temporalities. By enabling certain feelings of realtimeness, unmediation, and impulsivity, we argue that Twitter is a platform for the performance of temporalities that

Henrik Bødker: hb@cc.au.dk
Chris Anderson: C.W.Anderson@leeds.ac.uk
Date submitted: 2019-04-15

[1] The ideas developed in this article derive from an equal collaboration between the two authors. In developing this article, we sincerely wish to thank Helle Sjøvaag (Stavanger), Julia Sonnevend (New York) and the two anonymous reviewers for close, critical, and constructive readings.

we collectively conceptualize as populist time. We illustrate this conceptual argument through tweets from @realDonaldTrump.[2]

We present this piece—deliberately provocative at times—as a jumping-off point for more empirically rigorous studies that try to unearth the affinities between political developments and media affordances. In this, we openly harken back to some of the more conceptual pieces of media theory that formed part of the "media ecology" school of communications theory (Havelock, 1982; Innis, 1950; Ong, 1982). This theory, while often criticized, opened the door for a great deal of interesting empirical work and conceptual development. Recall also much of the writing on digital technology in the late 1990s through the mid-2010s. There is little doubt that, while many of the predictions of early Internet theorists have proved to be wildly exaggerated, their claims were useful for the purposes of spurring creative methodologies, identifying problems that needed scholarly attention, and providing new frameworks for thinking about political cultures. Our aim is for this article to do similar work.

The article has two main sections. In the first, we discuss the relationships among politics, time, and journalism. Given the complexity of the issues at stake, the arguments presented serve as a broad backdrop to the more specific conversation about the temporal relations between politics and social media. There is a meaningful relationship, we argue, between political processes and digital technology, a relationship increasingly (also) cultivated outside conventional journalism. In particular, there are structural affinities between the populist temperament of modern, mediated life and the use of real-time or quasi-real-time social media. In the second section, we lay out three interrelated ways in which social media (here, Twitter) perform the social temporalities through which we can analyze populist time: realtimeness, unmediation, and impulsivity. Each of these ways is explored by looking at how they intersect across different layers of meaning and how they can be understood through—and add up to—the concept of populist time. In the final section, we conclude by discussing both the implications and limitations of our argument and some paths for future research.

The Temporalities of Political Communication

In this opening section, we detail our central starting points with regard to the relationships among political processes, democratic cultures, journalism, and digital technologies. We first lay out key aspects of time and democracy and how these have been linked to journalism. After this, we narrow our focus to look at populism as a specific temporal style of communication and discuss how this may be shaped by social media and their shifting notions of time and temporal action. What we call populist time should thus be seen as a specific mode of mediated communication that builds on or constructs temporal relations related to, or in opposition to, broader temporal regimes and political styles. Finally, in this section, we go through the more specific analytical perspectives that we describe and illustrate in the second section.

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[2] We think that a discussion of @realDonaldTrump is generative in ways that an analysis of @POTUS is not. The @realDonaldTrump account has a massive following, with 3 million more followers than @POTUS. Trump's account—his own personal take on the world—thus offers a view into a mode of communication that aligns with the image and audience that Trump wishes cultivate as a politician.

Slow Democracy, Fast Media

We should be clear here that populism has a complex relationship with "slowness" and "speed," with populist communicative styles sometimes favoring acceleration and sometimes favoring delay. The specific temporal mode obviously depends on the actual policies in focus, and the exact "meaning" of populist time is thus only discoverable empirically. Yet, given that populism most often is "anti–status quo" and often linked to perceived crises (as will be described later), there is, we contend, within populism a specific leaning toward the acceleration of established political processes; this might, of course, coexist with attempts to slow down other processes.

Temporal processes of politics are deeply intertwined with journalism and media, with each institution (i.e., politics and journalism) constituting both interlinked and distinct temporalities; the specific processes of democratic governance and the related rhythms of journalistic production and consumption thus play into each other in complex ways that together form public perceptions of how society is, or may be, moving in time. We can, if we follow Rosa (2005), say that "time in politics" interacts with "politics in time," i.e., "the temporal structures, patterns and horizons of other social spheres" (p. 446).

A critical issue concerns the democratic implications of the temporal nexus between politics and journalism, an issue that is deeply related to interconnected developments within politics, journalism, and media technologies. The temporalities of democratic governance are (to some extent) bound by constitutional structures and thus adapt to larger temporal developments rather slowly, which has given rise to discussions of a lack of synchronization between social time and political time. This is the main thrust of Rosa's (2005) argument, which sees "modernity as acceleration"[3]; this creates a situation in which "the temporal patterns" of "democratic politics" may become "irreconcilably out of step with the time structures of the global age" (p. 454).

The intertwining temporalities of democratic governance are linked to the practices within and among the legislative, executive, and judicial branches, each of which has its specific traditions, practices, and rhythms—see, for instance, Palonen's (2018) discussion of "parliamentary time as a medium of politics" (p. 169). Indeed, democratic governance takes time. Although democracy is premised on the idea that societies are governed by and for the people, many democratic systems have built-in measures of delay, which (first) act as buffers between sudden public whims and the continuity (or "controlled" development) of society, and (second) ensure that political decisions are based on a form of deliberation that takes into account the complexities of the issues addressed and the possible consequences of legislative or executive measures. Democratic governance thus has an inbuilt tension between the accelerating nature of economic, technological, social, and cultural changes, and the temporality of political rule (Rosa, 2005): "Beyond a certain temporal threshold," he says,

> the dynamic forces of society are too strong for democratic political *self-determination*. Collective will-formation, deliberation and action require a certain degree of centralization,

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[3] This view of modernity was developed by Rosa in book form in German in 2005 and translated into English in Rosa, 2013.

> public stability and political identity which might not be compatible with the most dynamic forms of society. (p. 450, emphasis in original)

At the same time, the processing of legislation often results in what Goodin (1998) calls "democratic consolidation," leading to constraints that "that subsequently make it 'not the right time,' politically, for further reforms" (p. 40). Rosa (2005), in turn, points out ways in which "democratic will-formation and decision-making are in fact *slowing down* rather than *speeding up*" (p. 451, emphasis in original); he gives different reasons for this, for example, more heterogeneous societies with many interests to reconcile and a future that is less predictable in terms of the consequences of legislation. Thus, while society seems to be accelerating (see Saward, 2017, for a useful overview of work on the social acceleration thesis), the processes of governance have been slowing down. This exacerbates the inbuilt tensions identified by Rosa (2005).

Historically, at least, the institution of journalism has been central for mediating between politics and other social processes. Journalism has, following the earlier discussion, been instrumental in processes of both acceleration and delay (e.g., through its gatekeeping functions and its publishing rhythms). And although different of types of journalism (broadsheets vs. tabloids, for instance) have had different levels of patience with processes of governance, it has broadly made sense to link journalism to the rhythms of public life and thus society as such (e.g., Carey, 1989; Kleis Nielsen, 2017). While this linkage happens through the registration (and construction) of a wide variety of happenings and events, the ongoing monitoring of national politics has been a significant element in the construction of the temporality of public life. Journalism has thus been a significant element in the construction and maintenance of the temporalities of politics and society.

When national and regional legacy news media constituted the backbone of the institution of journalism, one could argue that political processes and news were largely synchronized as journalism aligned itself with the rhythms of democratic institutions. This was, of course, never entirely the case, and there have been recurrent discussions of how the temporalities of news also work against democratic processes. That "news time is deliberately short-sighted" (p. 55) thus becomes, according to Patterson (1998), an increasing problem when democratic institutions are no longer setting the pace of public discussions; he also points out that "political time has greater variation and is more complex than news time" (p. 60). Although this may be so, Patterson does not talk about how journalism also tracks events over time or how new media may affect such processes. Patterson is largely looking backward and seeing a discrepancy of temporalities because of broader developments within political cultures. He does, however, point toward an important issue, which is pointedly phrased by Ananny (2016): namely, that "power to make time is the power to make publics" (p. 419).

One aspect of this, within a digital media landscape, is that the "public sphere" is transformed into dispersed "performative publics" (Lünenburg & Raetzsch, 2018) or "public assemblages" (Anderson, 2013; Marres, 2007). This is connected to an increasing amount of time that citizens (and politicians) spend on more personalized media, media that constitute temporalities as complex sets of relations among dispersed people, institutions, and technologies. Another important aspect of this is the increasing practice of politicians bypassing the gatekeeping of journalism. Measures of delay within both politics and journalism are increasingly challenged when the established seriality of journalistic publishing is pushed toward almost continuous updating, while simultaneously, many political discussions take place in online fora somewhat unconnected to conventional journalism. This makes more visible or exacerbates the already existing tension between public opinion formation and demands, and the temporal processes of democratic institutions. We may speculate along with Rosa (2005), who argues that some "critical point in the development of modernity" will result in "a serious de-synchronization between politics and other social systems" (p. 450). This calls attention to some of the democratic implications of the discrepancies between the temporalities of mediated discussions of politics (in journalism and/or outside) and delaying features of democratic governance.

It is precisely within this "de-synchronization" that we locate the notion of populist time. Populist time can be seen as a continuation of established ways of dealing with the tension between societal speed and the slowness of governance, for example, a "disproportional predominance" of "executive decision-making . . . over politics by proper democratic legislation" (Rosa, 2005, p. 453). But it can also be seen as newer attempts to oppose institutional delays in the ways populist leaders openly align themselves through social media with popular perceptions of impatience, in opposition to elite temporalities of postponement.

Populism as a (Mediated) Political Style of Acceleration

Seeing populism as impatience clearly points in the direction of populism as a particular mode of communication or political style. Political subjects can obviously be impatient for a number of ideological reasons while relying on various strategies. Our approach to populism thus builds on Moffitt's (2014, 2016) discussion of populism as a political style instead of—or, rather, supplement to—other ways of seeing populism as, respectively, "ideology, logic, discourse or strategy" (Moffitt, 2014, p. 382). What we are interested in is how we can understand populist time as a specifically mediated style of communication, which obviously has ideological, logical, discursive, and strategic implications; while these implications are not our main concern, it must be added—as will become clear in the following—that it is not entirely possible to separate elements of style from such wider implications. The different characteristics (e.g., style, ideology, and strategy) can, as Pappas (2017) points out, "go well together as none in principle refutes the others" (p. 269). Focusing on populism as a style is thus more a question of emphasis or perspective than it is an ontological choice (i.e., a specific argument about what populism *is*).

Moffitt (2016) broadly defines political style "as the repertoires of embodied, symbolically mediated performance made to audiences that are used to create and navigate the fields of power that comprise the political, stretching from the domain of government through to everyday life" (p. 25). Based on inductive studies of the communication of a range of populist leaders, he distills the notion of populism as "*a political style that features an appeal to 'the people' versus 'the elite', 'bad manners' and the performance of crisis, breakdown or threat*" (p. 35, emphasis in original). As Trump consistently has talked about Washington as a swamp to be drained, has repeatedly breached decorum, and has reacted to immigration as a state of emergency, these features seem highly relevant in relation to Trump's online communication. Indeed, when presenting the main tenets of Moffitt's book (2016), Pappas (2017) writes, "Just think of Donald Trump's electoral campaign and you get the idea" (p. 269). Following this, it should be added that Moffitt (2016) writes that he was unable to include more "'recent' populists" such as, for instance, "Donald Trump" (p. 33), in his study.

The three features listed by Moffitt are intricately linked to temporality. The notion of political crisis is linked to "the demand to act decisively and immediately" (Moffitt, 2014, p. 391), an urgency that is linked to "bad manners" or "common sense" as a way of cutting through the "'appropriate' modes of acting in the public realm" (Moffitt, 2016, p. 34). Our focus in this article is thus on the ways in which Trump's performance on Twitter can be understood as the merging of key temporal features of populism as a political style and the more specific temporalities afforded by the social media platform.

While the building blocks of what we call populist time do not map neatly unto the Moffitt's three features and their temporal underpinnings—people vs. elite, bad manners, and crisis—the notions of "realtimeness," "unmediation," and "impulsivity" are to be understood as specific temporal repertoires within populism as an online political style. A recent article by Baldwin-Philippi (2019) follows a somewhat similar track as it looks at how Trump's 2016 campaign "performed populism using digital technologies, and how those technologies afford a particularly digital performance of populism" (p. 377). As this article makes clear, Trump did, more so than his opponents, employ a range of measures to "center 'the people' through digital means" (p. 380)—means that include "controlled interactivity," "amateur and antiprofessional content" (p. 384), memes, and non-data-driven campaigning across social media. In contrast, our focus is on the intersections of discourse and style in relation to temporality. Indeed, it is somewhat difficult to wholly separate style (form) and discourse (content), which Moffitt's definition also makes clear in the sense that populism as style is seen as both specific ways of talking (bad manners, plain language) and specific appeals and values (e.g., anti-elite). As such, this particular style gains a significant measure of meaning from being in opposition to the "features of the technocratic style" (Moffitt, 2016, p. 35) whose aim for "emotional neutrality and 'rationality'" is linked to "stability or measured progress" (p. 35). This is broadly why we conceptualize populist time as a (mediated) political style of acceleration. This perspective will be expanded in the context of social media and the more specific analytical categories.

Social Media and Populist Time

We may, as outlined earlier, be witnessing the de-synchronization of the temporalities of news coverage from the more traditional rhythms of national politics. This may in turn be linked with a growing impatience inculcated by the acceleration of "news" transmissions and ever-increasing updates on news sites and social media. All of this then takes us to the central concept of this article, which is the notion of populist time. Key to this—and we will expand on each of these items in the following section—are the ways in which some politicians speak directly to constituencies and thus bypass the (temporal) mediation of more established forms of both political communication and journalism. Put differently, populist time performs a confrontation, disassembling or circumvention of ingrained practices of delay in both political and media cultures. In some contexts, and at its most extreme, this can be linked to plebiscitary-style populism—or what Gerbaudo (2018) refers to as a "'mobocratic' tendency" (p. 751)—in which the social media streams of some politicians (e.g., Trump) may redefine the "temporal situation" of politics through attempts to short-circuit political change itself by playing to feelings of impatience within an electorate poised against "slowness as a 'privileged tempo'" (Sharma, 2014, cited in Ananny, 2016, p. 417) of those who can afford a slow democracy. The elites can, in many instances, afford to wait and to follow the rules of the liberal order. The people, angry and suffering as they are, cannot.

One particular set of political affordances of social media in general, and Twitter in particular, thus allows politicians to "hack" the public sphere by using the temporal rhythms of the platform to engineer and/or align with feelings of political impatience and instability. Populist time emerges from (and is retrospectively the creator of) the political style of particular people on social media platforms. Particularly Twitter. And particularly the Twitter feed of Donald Trump.

A populist moment could thus be seen as the "now-ness" of "messianic time" in the sense of historical struggles condensing into a specifically charged now that promises to "make the continuum of history explode" (Benjamin, 1968, p. 395). Pushing it, one may say that the eternal struggle of throwing off the shackles of the elite within a presidential Twitter stream takes on the appearance of a "now-time, which . . . comprises the entire history of mankind in a tremendous abbreviation" (Benjamin, 1968, p. 396). This abbreviation is thus a specific moment of hesitation and/or promise created at the intersection of a specifically mediated "realtimeness" and the embodiment of an unknown future, a person, the president, Trump—this "ghost"; or, as Derrida (1994) says of messianic figures: "One may deem strange, strangely familiar and inhospitable at the same time (*unheimlich*, uncanny), this figure of absolute hospitality" (p. 168; emphasis in the original).

Indeed, a significant aspect of populism is the idea of someone of, and like, yet different from, the people who has a "superior capacity to discern the common good" (Müller, 2014, p. 486) and who thus in effect embodies its will. This is, most often, someone from "outside traditional politics" with "a strong, direct bond" to "citizens who feel neglected by mainstream parties" (Müller, 2014, p. 486), and social media is indeed a suitable avenue to cut "'out the middleman' and try to rely as little as possible on parties as intermediaries between citizens and politicians" (p. 486). This is somehow linked to the potential of cutting off politicians altogether in the sense that parts of the business community, not least within high-tech, seem to suggest that private enterprise is a faster and more efficient way to deal with public issues. What Chesneaux (2000) wrote with regard to Berlusconi is thus also applicable to Trump: his "experience as a speed-concerned businessman clearly did not prepare him to comply with the time-demanding procedures of a democratic, constantly debating society" (p. 409).

While calling Trump a messianic figure may be taking it too far, there lingers some trait of the uncanny in the connections between the prophetic language of Trump—"The Tax Cut Bill is getting better and better. The end result will be great for ALL!" (2017, November 28)—and his many devout followers seemingly more focused on promises than on actual results. Indeed, many of his tweets are characterized by what Papacharissi and Oliveria (2012) call "an anticipatory tendency" (p. 275) through which the anti-elitist "revolution" seems just about to happen. Indeed, what Papacharissi and Oliveria (2012) write about Twitter news streams in times of social upheaval is oddly applicable to the Trump stream. "Characterized by premeditation, affective . . . streams may," they write, "be filled with anticipatory gestures that are not directly predictive of the future, but instead communicate a predisposition to frame it, and in doing so lay claim to the latent forms of agency that are also affective and networked" (p. 280).

Analyzing Populist Time: Realtimeness, Unmediation, and Impulsivity

The ensuing discussion of the tweets of @realDonaldTrump takes place in relation to three interrelated repertoires of a populist communication style on social media that are distinctly linked to temporality. In the first section, which sets the scene for the rest of the discussion, we talk about "realtimeness" as a way of constructing a specific sense of political immediacy, that is, "real" problems that need to be solved now (the notion of crisis identified by Moffitt, 2016). One specific aspect of this construction relates to notions of the "unmediated," namely, the creation of a sense that the political community being constructed (i.e., the "people") is based on unfiltered communication. This is, finally, linked to the notion of "impulsivity" and the political as "ordinary" and "authentic" (Aiello & Dickenson, 2014; Banet-Weiser, 2012), that is, something that precedes political and strategic discourses. The three repertoires of realtimeness, unmediation, and impulsivity are thus, as will become clear in the analysis, highly interrelated.

Realtimeness

The goal of real-time has a long history within journalism (and other media forms). Attempts have been made to continually reduce the time between the event itself and its transmission; with the Internet, we are arguably approaching a nearly synchronous relationship between events and their mediation. Yet events remain mediated, and this means that events unfolding at a distance always come to spectators through various technological and ideological filters that construct temporal unfoldings in certain ways. This is the focus of Weltevrede et al. (2014), who wish to understand how "various platforms create distinct real-times" (p. 127). While they do acknowledge the importance of technology and transmission, their aim is broader in the sense that they wish to identify the web's "distinctive 'real-time cultures'" (p. 137) by taking "into account the social arrangements and cultural practices that they [different platforms] incorporate and enable" (p. 127). One of the platforms they look at is Twitter, which (together with Facebook) is seen as a "prototypical stream platform" (p. 138) on which realtimeness is as an interplay among updating, ordering according to either freshness or relevance, and, finally, interaction—that is, how a specific user engages with or, perhaps more precisely, enacts a specific realtimeness. The main point, as suggested earlier, is that the notion of real-time is not only a question of the speed of transmission, but rather something "assembled through the technicity of platforms," that is, the ways in which an interplay between distinctive front- and back-end features coalesces into a specific (experience or feeling of) realtimeness.

For the purposes of studying the political construction of populist time on Twitter as a specific variation of realtimeness, we can think of this as a result of the collision between specific political cultures and the operation of Twitter as a platform (cf. the approach by Baldwin-Philippi, 2019). As the Web—and Twitter with it—is "characterized by an interplay between permanence and ephemerality" (Weltevrede et al., 2014, p. 126), one may see the notion of populist time on Twitter as an interplay among the rhythm of updating, the seemingly unfiltered content, sharing and liking, and the permanence inscribed by the office of the president, i.e., a specific platform or stream endowed with a more permanent authority and that in this instance is linked to the feed of @realDonaldTrump, who speaks the language of the people (which as an "entity" carries its own elusive permanence). While Weltevrede et al. mainly analyze the ordering, freshness, and relevance of streams, an understanding of the specificity of realtimeness of populist time produced by the presidential stream is also produced by the content (and links) of the individual tweets and their interrelations.

A key issue is here the continued focus on immediate action. This has been a feature of Trump's approach and image management right from the start and connects with the populist notion of (a) defining a problem and then (b) immediately suggesting a simple solution. To solve the problem of immigration from the Mexico and Central America? Build a wall. Because this was not immediately realizable, the president sought a ban of immigrants though executive order, an order that initially was halted by the courts. Following this, Trump tweeted:

> Just cannot believe a judge would put our country in such peril. If something happens blame him and court system. People pouring in. Bad!
> (@realDonaldTrump, February 5, 2017)
>
> The threat from radical Islamic terrorism is very real, just look at what is happening in Europe and the Middle-East. *Courts must act fast*!
> (@realDonaldTrump, February 6, 2017, emphasis added)
>
> (Both tweets cited in Kreis, 2017, p. 613)

What is constructed here is a temporality of immediate action against the slowness of the judicial and legislative system. Promises of a speeded up political process were part of the election strategy and have continued to be a significant aspect of the Twitter stream:

> ISIS is making big threats today - no respect for U.S.A. or our "leader" - If I win it will be a very different story, *with very fast results.*
> (@realDonaldTrump, February 9, 2016, emphasis added)
>
> The weak illegal immigration policies of the Obama Admin. allowed bad MS 13 gangs to form in cities across U.S. We are removing them *fast*!
> (@realDonaldTrump, April 18, 2017)
>
> Despite the long delays by the Democrats in finally approving Dr. Tom Price, the repeal and replacement of ObamaCare is moving *fast*!
> (@realDonaldTrump, February 17, 2017)

Trump is, in these and other tweets, aligning himself with the immediacy of felt threats stemming from a broken system, threats that are seen as neglected by the judicial and legislative branches (mainly those controlled by Democrats). This is, in other words, an opposition between what may be termed the "realtimeness" of the "people"—as constructed on Twitter—and the delaying structures of the "swamp," which seemingly halts or prevents any real action because of dysfunctional relations between people in power, which include the mainstream press:

> Drain the Swamp should be changed to Drain the Sewer - it's actually much worse than anyone ever thought, and it begins with the Fake News!
> (@realDonaldTrump, July 24, 2017)

What is constructed is thus an opposition between recognizable problems—for example, threats from immigration and the immediacy of doing something about this—and a fossilized system of contacts in which people are more concerned with remaining in power than in actually doing something about the concerns of the people. This is indeed a well-known trope that is not only American and populist. There is, however, in the ways it comes out through Trump, a specific inflection that aligns with aspects of the American frontier myth where problems are immediately solved by "real" people rather than through bureaucratic structures. There is thus a wedding here between populism and a deep core of American anti-big-government feelings, both of which pose an "authentic people, often symbolically identified with . . . a heartland" (Müller, 2014, p. 486). Through this Twitter-enabled immediacy, Trump aligns himself with the "real" concerns of the people while distancing himself from bureaucratic delays. Populists are, says Müller (2014), "impatient with procedures (and that can include referenda, which are procedures as well, after all) and elections at regular intervals" (p. 489). The realtimeness performed by Trump may thus be termed a *politics of impatience* and is very much linked to the idea that social media seemingly allow almost instantaneous, unmediated communication.

Unmediation

In the vast literature on "new media," there has been a recurrent focus on the concept of "disintermediation," that is, how new types of technologies and platforms can allow for the more direct processes of distributing content (see for instance, Chircu & Kauffman, 1999). In relation to politics and news media, Blumler (2011) has talked about "disintermediation" as "circumventing mainstream news media via channels of more direct access to voters such as the Internet" (p. x). Despite recent analytical perspectives that largely unmask the notion of social media as direct, unmediated, or unfiltered communication between peers, this perception continues to be evident in how such media are used. And, this "directness" does—at one end of the scale—allow for what Sobré-Denton (2016) calls "virtual cosmopolitanism" and, at the other, more defensive and xenophobic expressions of unimpaired passion for the nation when "the ordinary [is] in crisis and the ordinary person [is] the real victim" (Hilhorst & Hermes, 2016, p. 223).

Hilhorst and Hermes (2016) are interested in a Facebook group focused on the Dutch Christmas tradition of Zwarte Piet (Black Pete) and talk about the long process of "the becoming ordinary of populism" (p. 230); they also draw attention to populism as "a logic of articulation" in a space that is "dichotomized in an 'us' and 'them' through which "unrelated issues are linked by the notion that 'the people' are being treated unfairly" (p. 227). The "affective community" is built on emotional and everyday language through which "suffering" becomes a political force and where the "ordinary or normative subject is reproduced as the injured party: the one 'hurt' or even damaged by the 'invasion' of others" (p. 227). This is an interesting parallel to the political subject constructed by @realdDonaldTrump, and his language is here a significant marker.

The realtimeness as a politics of impatience is thus linked to an impatience with translating or tempering anger and other emotions into what may be called a more civil language. In a tweet related to NFL kneeling while the national anthem is playing, Trump tweeted:

> The booing at the NFL football game last night, when the entire Dallas team dropped to its knees, was loudest I have ever heard. Great anger
> (@realDonaldTrump, September 26, 2017)

While this legitimizes anger as a direct political force (Wahl-Jorgensen, 2018), it is also a clear example of how Trump aligns himself with this emotion in a very simple yet effective way: "Great anger." This syntax is somehow a trademark of @realDonaldTrump in the sense that many tweets end with a suffix underlining the message—for example, "Mainstream Media must clean up its act, FAST!" (October 24, 2018). In an analysis of 200 tweets, Kreis (2017) argues that "President Trump's tweets demonstrate that his language is simple and direct and his messages are succinct" (p. 615); and this "succinctness" is opposed, implicitly or explicitly, to intervening language of "fake news":

> AP headline was very different from my quote and meaning in the story. They just can't help themselves. FAKE NEWS!
> (@realDonaldTrump, October 17, 2018)

The direct and relatively simple language is linked to a type of political community in which things are expressed as they "are." Hilhorst and Hermes (2016) write of social media (here, Facebook) as "a meshed network of friends groups [and] a digital space that invites you to speak your mind and especially to express your feelings: you are among friends" (p. 221). In relation to this, "unmediation" expresses a sense that what takes place on social media simply is "ordinary" language that has migrated onto a media platform. While a number of studies underline that this not simply so (as online discussions may be more polarizing; see, e.g., Bird, 2011), one may see Twitter utterances as a "blend [of] the traditions of a primary and secondary orality" (Papacharissi, 2014, p. 28) and thus closer to everyday spoken language than what is mediated through traditional mass media.

The tweets may thus give rise to what Papacharissi and Oliveria (2012) term "instantaneity"—labeled as such here not because there are "updates streaming every few seconds" (p. 274), but rather because the stream from Trump seems sped up and instant when compared with rhythms usually characterizing high-office political communication. Such an experience of instantaneity is coproduced by "the modes of engagement, interaction and the speed at which responses to one's own actions are being shown" (Weltevrede et al., 2014, p. 129), and is visible on the platform through the increasing numbers of likes, shares, and comments. In @realDonaldTrump, this sense of unmediation is constantly communicated via the implicit and explicit opposition to "fake news," which is seen as inserting a distorting layer closely linked to an elite that is distanced from the will of the people. By constantly invoking the fake news of mainstream news media, Trump is positing his utterances as an unmediated and uncontaminated channel of communication, one that "circumvents the journalistic gatekeepers" (Kreis, 2017, p. 610).

Impulsivity

Populism is founded on the ability of a leader to somehow voice the concerns of the "authentic people" in opposition to "small minorities who are put outside" this constructed entity (Müller, 2014, p. 485). The leader thus needs to be seen, if we follow Müller (2014), as someone who "correctly discerns what we [the people] correctly think" (p. 486). Regardless of whether one finds Trump charismatic, he seems to be wording popular concerns in a way that resonates well with a substantial part of the electorate, and this is linked to an "image of a pre-procedural people" (Müller, 2014, p. 488)—one that may be seen as positing true, moral politics outside the established procedures of liberal democracy. This aligns well with the notion of the frontier mentioned earlier, an idea that also has been applied to the early Internet (see Bødker, 2004; Turner, 2006).

Such a prototypical and moral politics is, as discussed earlier, performed through the appearance of an unmediated language, which partly means the lack of the intervening gatekeeping of mainstream media and partly nobody else interfering—not strategic communicators, or even one's own civility. These two inhibitions are related in the sense that Trump may be seen as "a candidate of impulse running against candidates of calculation" (Gabler cited in Ott, 2017, p. 63). The content and timing of Trump's tweets certainly create an impression of "impulsivity," which Ott (2017) sees as an inherent part of Twitter. Tweets are thus often, he writes, "sparked by an affective charge" (p. 61). The tweet that follows, which Trump sent from Air Force One on his way from the G7 meeting in Canada to the North Korea Summit in Singapore, is a good example of this:

> PM Justin Trudeau of Canada acted so meek and mild during our @G7 meetings only to give a news conference after I left saying that, "US Tariffs were kind of insulting" and he "will not be pushed around." Very dishonest & weak . . .
> (@realDonaldTrump, June 19, 2018)

Given the position of the United States and Canada, such a tweet seems deliberately lacking in civility and calculation in relation to future collaboration. Indeed, the tweet seems much closer to a subjective expression than a calculated political utterance. If we apply Papacharissi and Oliveria's (2012) notion of Twitter as "atomized stories and stories of subjectively experienced events" (p. 267), we could say that Trump's Twitter stream creates a type of authenticity in the sense that the president—as a person, not an office—speaks directly and that doing this creates a stream (of consciousness) that is very different from much more (or differently) managed modes of political communication.

What we see here gives the impression of pre-spin outbursts, evidence of whose authenticity can be found in the fact that Trump's own press secretaries later spend time describing what the president meant/said or did not mean/say. Was the Pocahontas comment demeaning? Was the retweeting of British right-wing videos discriminatory, etc.? What we seemingly get access to are unfiltered political reactions in the White house as they develop in everyday language, not something that has been filtered through a bureaucratic apparatus of communication managers. The stream thus gives a sense of being present as the thoughts form, that is, what the president "really" thinks, as opposed to this coming out much later in a candid biography or emerging from under many layers in a presidential library. Here, Twitter thus gives access to what Papacharissi and Oliveria (2012) call "*premediated* situations" (p. 267; emphasis in original)—although they are here referring to news practices on Twitter in relation to quickly developing stories.

Here, the notion of "premediation" should be seen in relation to widespread both academic and popular perceptions of how political language increasingly has become professional and/or strategic. Political language is thus not only about expressing convictions, but also about being part of a strategic process of public opinion and, ultimately, votes. This means that a lot of political discourse—at least at a certain level—is undergirded by social science and various types of market data. By giving the impression of uttering political expression prior to such interventions, Trump's tweets give the impression of a "more amateurish yet authentic" politician (Enli, 2017, p. 54) who is "not even attempting the guise of professionalism" (p. 56). In taking on this stance—as he also did very successfully in the presidential campaign in 2016—Trump aligns himself with the "ordinary," which here is not threatened by outsiders, but by a distancing language of social science, theory, and, ultimately, education. This is an integral part of the opposition toward an elite that has appropriated concepts and discourses that are seen as distancing "real" experiences, a language that layers alienating concepts, theories, and strategies on top of "real life." Elites speak a "slow" language that needs some kind of translation or operationalization to be perceived as having an impact. It is a language poised against unmediation and impulsivity, and confronting this language signals an impatience with those who do not or cannot speak a simple and readily understandable language.

Authenticity, Populist Time, and Political Communication

By utilizing the repertoires of populist time, Donald Trump pulls a remarkable trick in the emerging canon of postmodern political performance—the ability to appear simultaneously entirely mediated and utterly authentic. It is in helping to resolve this tension between authenticity and mediation (Sorensen, 2018) that we think the concept of populist time has much to offer concepts of political communication. Consider that, as many scholars have pointed out, Trump's initial burst of political success lay in the fact that he was a bona fide media celebrity (Alexander & Woods, 2019 Street, 2019). Even more remarkable is that he has simultaneously managed to imbue this celebrity status with authenticity, at a moment when politicians of all stripes are criticized for their lack of seeming "realness" (Banet-Weiser, 2012; Serazio, 2017). It might be the case that Trump's twitter performance, complete with mangled syntax, easily recognizable spelling errors, and bizarre turns of phrase, plays a role in making him seem more like an ordinary person.

> Ted Cruz is totally unelectable, if he even gets to run (born in Canada). Will loose big to Hillary. Polls show I beat Hillary easily! WIN!
> (@realDonaldTrump January 31, 2016)
>
> How low has President Obama gone to tapp my phones during the very sacred election process. This is Nixon/Watergate. Bad (or sick) guy!
> (@realDonaldTrump March 4, 2016)
>
> Despite the constant negative press covfefe
> (@realDonaldTrump July 3, 2018)

But there is more to this story of grammatical massacre. As the *Boston Globe* first reported in 2018,

> It's not always Trump tapping out a Tweet, even when it sounds like his voice. West Wing employees who draft proposed tweets intentionally employ suspect grammar and staccato syntax in order to mimic the president's style, according to two people familiar with the process. (Linskey, 2018, para. 1)

The Trump errors are themselves at least partly staged acts, carried out (in some cases at least) by members of his staff, and perhaps by the president himself. But it is a form of staging that perhaps is far less obvious to the ordinary voter, who might see these performances as signaling an unmediated look into Trump's inner mind—one that spells things incorrectly, just like an ordinary person.

In this instance, we might argue that Twitter serves as an essential counterpoint to the obviously staged aspects of the Trump presidency (the ritualized bill signings, the performative press conference, the desire for a large military parade) and does so partly through a temporal communications style we term *populist time* and that, in various ways, signals a preempting of and/or short circuiting of the temporal machineries of government that carry on in all its ceremonial aspects, stabilizing ritualized, deliberative chronology of representative democracy, moving forward at a steady pace. Trump's twitter performance thus highlights a seeming backstage zone in which time is a social and quotidian temporality (of impatience) that moves forward through the realtimeness of Twitter. While Walter Benjamin (1968) certainly did not have Trump's misspelled tweets in mind when he wrote about "the 'time of the now' which is shot through with chips of Messianic time" (p. 263), there is no doubt that these periodic outbursts of illegibility serve to disrupt the normal, steady chronological order of microscale historical progress. The notion and deployment of "covfefe" is far less humorous, and far more politically disruptive, than it first appears.

Conclusion

By introducing the concept of populist time, this article attempts to understand political communication on social media, and Twitter in particular, as situating itself within the emerging de-synchronization between social acceleration and the temporalities of democratic governance.[4] Populist time is thus a performance, to put it more directly, that attempts to disrupt or circumvent the delays built into liberal democracy. This amounts to the constructed opposition between a wish for quick changes—legitimized by being vested in the will of the people—and established sectors of society that rest on and (perhaps) propagate (moderating) delays.

[4] One interesting recent development on Twitter has been the aggressive algorithmic attempts to downplay or even eliminate the "real-time" elements of the platform in favor of an algorithmically curated feed. These moves have been strongly resisted by the bulk of Twitter's core user base, and many have opted to retain their chronological timeline. Although we lack the ability to go more fully into these issues here, one interesting future empirical study could attempt to compare temporal populist political styles before and after the introduction of the algorithmic timeline.

The notion of populist time thus calls attention to how such an opposition plays out in relation to media, language, and (political) strategy. While the notion of unmediation was applied earlier with respect to social media, it might also be applied more widely in the sense that the notion of populist time is premised on an idea that unmediation is indeed possible—that is, that the "real" in certain ways *can* come across somehow untainted by the mediation of media, language, politics, and strategy. It is precisely by being against the distorting/delaying measures applied by the elite within such processes that an immediate "normality" appears as liberating. Because all the tweets may not come directly (without "mediation") from Trump himself, we do not really know to what extent the propagated unmediation is a conscious strategy—and it may not matter. What we can say is that this practice and/or strategy is opposed to what may be seen as the de-affectivization of delays, that is, ways to make sure that once politic demands are turned into legislation, it is based on rational choices. Unmediation in political communication is thus also a legitimization of anger—that of both those seemingly represented by the populist leader and those who are vehemently angry at this turn of events.

Following on from this, we do hope and think that the notion of populist time as proposed here—and particularly its social media affordances—may be a fruitful point of departure for further discussions of the relationships among the temporalities of politics, journalism, and digital communication. But, before outlining some of the directions that such further studies may take, we wish to call attention to some of the limitations of this study. Obviously, in this introductory article, we could not fully explore all the various pathways down which a technologically imbricated notion of populist time might take us. In particular, we would like to draw the readers' attention to three limitations.

First, we think it remains an open question just how far this concept might "travel" empirically. Does the notion of populist time apply to other populist leaders (and their Twitter feeds) beyond @realDonaldTrump? Does it manifest itself equally among politicians across the political spectrum, on both the right and the left? About any issue? Obviously, we do not address any of these possibilities here. In the end, all these suggestive remarks can only be confirmed or dismissed through empirical work, and it has been our hope in this piece to encourage work on social media platforms that focus on the intersections of political and technological temporalities.

This remark takes us to our second limitation—and suggestion for future scholarship—which is that this piece only analyzes Twitter. Twitter is obviously not the most important social media platform for the production of politics; indeed, many scholars have written about their frustration with the number of "Twitter studies," as opposed to analyses of Facebook, Instagram, WhatsApp, and so on. We sympathize with this complaint. In this regard, it would be interesting to analyze the forms of political temporality that manifest themselves across media platforms to see if different politicians enact different forms of temporal populism, if these styles converge into a complex form of digital personhood, and so on.

Finally, we have devoted little time to the discussion of the mediation of populism in any historical sense, perhaps giving the impression that the "digital" enacts a particularly powerful intersection when it comes to the relationship between temporality and populism. Given that we are writers who have done significant historical work, this is far from our intent. Indeed, we are actually convinced that a great deal of classic media history deals with these issues, though not always using the terminology and conceptual apparatus we deploy here. There is certainly much fruitful work to be done in synthesizing this scholarship and pushing it in new directions.

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Socio-Psychological Recovery From Disasters Through the Neighborhood Storytelling Network: Empirical Research in Shinchimachi, Fukushima

JOO-YOUNG JUNG[1]
International Christian University, Japan

More than eight years have passed since the Great East Japan Earthquake, but recovery efforts in Fukushima are still under way. This study focuses on socio-psychological recovery from the triple disasters in 2011, which involved the earthquake, tsunami, and nuclear accident. Based on communication infrastructure theory, the study examines how people's connections to their neighborhood storytelling network and collective efficacy influence their socio-psychological recovery measured by life satisfaction and future outlook. Based on a survey conducted in Shinchimachi, Fukushima, the study found that residents who are more connected to their neighborhood storytelling network—consisting of community organizations, local media, and interpersonal storytelling—are likely to have higher life satisfaction and a more positive future outlook. In addition, collective efficacy was found to have positive effects on life satisfaction and future outlook. Implications of the study for disaster research and intervention are discussed.

Keywords: disaster recovery, Fukushima, storytelling network, communication infrastructure theory, collective efficacy, Great East Japan Earthquake

It has already been more than eight years since the Great East Japan Earthquake struck on March 11, 2011. The earthquake resulted in triple disasters involving the earthquake, tsunami, and nuclear accident. In particular, the Fukushima nuclear accident immediately made "Fukushima" infamous, not only in Japan but also globally, changing the lives of people in Fukushima.

Disaster recovery has been under way in Fukushima, and many places and facilities have been reconstructed. Train stations that were swept away by the tsunami were reconstructed and began operating. Buildings and houses were repaired or rebuilt. While government funding and aid were provided for physical recovery, less support was provided for people's recovery from socio-psychological trauma and damage (Matsumoto, Sakuma, Ueda, Nagao, & Takahashi, 2016). Individual-level counseling is the most common way to help people overcome psychological trauma, but several studies have emphasized the role of

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Joo-Young Jung: jungjy@icu.ac.jp
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community-level social networks and support systems in overcoming trauma (Aldrich, 2012; Steinglass & Gerrity, 1990).

This study focuses on socio-psychological factors, such as life satisfaction and future outlook, as indicators of how people are overcoming trauma and recovering from the disaster. Based on communication infrastructure theory (Ball-Rokeach, Kim, & Matei, 2001), the author proposes that people's connectedness to their neighbors and community resources is related to their socio-psychological recovery after the Great East Japan Earthquake. The study is based on a survey of residents in Shinchimachi, a coastal village in Fukushima Prefecture.

Literature Review

Communication Infrastructure Theory

Even in the age when translocal connections via the Internet are prevalent, one of the critical situations in which people's physical environment and local social relationships become important is during and after disasters. One of the ways that people cope with disasters is to exchange information and share stories about their experience with their neighbors. In disaster situations, having access to communication networks and resources, such as neighbors, community-based organizations, and local media, is likely to help people understand and cope with the situation. Communication infrastructure theory (CIT) presents a theoretical and empirical framework for examining people's connections in their community and the outcomes (Ball-Rokeach et al., 2001; Kim & Ball-Rokeach, 2006a).

Communication infrastructure of a community is defined as the storytelling network set in its communication action context (Ball-Rokeach et al., 2001). A neighborhood storytelling network consists of three main players: residents, community organizations, and local media. A strong storytelling network has residents actively talking to one another about what is happening in their community; residents involved in community organizations; residents closely following local media to find out what is happening in their community; and community organizations and local media maintaining close connections and collaboration. Communication action context includes the physical, cultural, demographic, and technological context that can either facilitate or hinder the viability of the storytelling network.

Studies that applied CIT have found that the strength of the neighborhood storytelling network is associated with belongingness to one's neighborhood (Ball-Rokeach et al., 2001), collective efficacy (Kim & Ball-Rokeach, 2006b), civic participation (Cohen, Ball-Rokeach, Jung, & Kim, 2002; Jung, Toriumi, & Mizukoshi, 2013), and health outcomes (Matsaganis, Golden, & Scott, 2014; Wilkin, Moran, Ball-Rokeach, Gonzalez, & Kim, 2010). In particular, CIT has been applied to investigate the role of the storytelling network in disaster situations. After the September 11 terrorist attack in New York, researchers examined the ways in which people's connections to their neighborhood storytelling network influenced their likelihood of engaging in civic actions. Cohen et al. (2002) found that those who engaged in conversation with neighbors, belonged to neighborhood organizations, and read newspapers after September 11 were more likely to engage in civic actions. In a study after the Great East Japan Earthquake, Jung et al. (2013)

found that those who have a higher connectedness to the offline storytelling network and the Internet were more likely to engage in civic activities related to the disaster.

Social Connectedness and Disaster

People's social relationships have been associated with different outcomes such as health and longevity, life satisfaction, career development, and civic engagement (Gil de Zúñiga, Jung, & Valenzuela, 2012; Granovetter, 1983; Holt-Lunstad, Smith, & Layton, 2010; Vaillant, 2012). Holt-Lunstad and colleagues (2010) conducted a meta-analysis of 148 studies that examined the relationship between social relationships and longevity. The authors found that stronger social relationships were associated with a 50% increase in the likelihood of survival. Vaillant (2012), in a longitudinal study, found that warmth of social relationships has a positive impact on health and life satisfaction, as well as on financial success.

The concept of social capital has been widely applied to examine the impact of informal social relationships on various outcomes. Social capital, characterized by reciprocity, trust, and cooperation, has been associated with both individual- and community-level benefits (Putnam, 2000). At the individual level, social capital has been associated with economic and educational benefits, well-being, and quality of life (Coleman, 2000; Granovetter, 1983; Seibert, Kraimer, & Liden, 2001). At the community and societal level, social capital has been associated with civic and political participation (Gil de Zúñiga et al., 2012).

Social relationships have been found to have benefits during and after disasters (Harada, 2012; Weil, Lee, & Shihadeh, 2012). In particular, many studies have found that people's relationships with their neighbors play an important role in coping with disaster and disaster recovery. Weil et al. (2012) found that people who were more socially embedded faced a burden of helping others immediately after Hurricane Katrina in the United States, but they eventually coped better with the stress of recovering from the disaster than others. Harada (2012) noted that both bonding and bridging social capital played an important role in coping with the Great East Japan earthquake.

A few studies have examined community-level differences in disaster recovery. Elliott, Haney, and Sams-Abiodun (2010) compared two communities that were affected by Hurricane Katrina. The researchers found that residents in a community with higher social and financial capital were more likely to have received support from others, evacuated earlier, and resumed a normal community life faster than those of the other community with lower social and financial capital. Sanyal and Routray (2016) observed that community-level social capital played a crucial role in the survival of residents after disasters in Sundarbans, India. Aldrich (2012) studied several natural disasters in Japan and India and highlighted that community-level social capital played a crucial role in building resilience in coping with disasters.

Collective Efficacy

Collective efficacy is defined as individuals' perceptions of their neighbors' willingness to participate in solving neighborhood problems as well as their perceptions of social cohesion in the neighborhood (Kim & Ball-Rokeach, 2006b; Sampson, Raudenbush, & Earls, 1997). Whereas self-efficacy is about how much "I" have control over my surroundings, collective efficacy is about how much "we" as a community have the capacity to control and manage our surroundings based on trust and cohesion (Kim & Ball-Rokeach, 2006b). Sampson and his colleagues (1997) proposed two subdimensions of collective efficacy: informal social control, and social cohesion and trust. Informal social control refers to the capacity and willingness of residents to control group-level problems (Sampson et al., 1997). Social cohesion and trust refers to individuals' perceived solidarity of the neighborhood and trust toward neighbors. The two subdimensions were merged into a single factor of collective efficacy, as explained by Sampson (2017): "As hypothesized, social cohesion and social control were strongly related across neighborhoods and, thus, combined into a summary measure of collective efficacy, yielding an aggregate-level reliability in the .80 to .85 range" (p. 154).

Collective efficacy of a neighborhood was associated with reduced violence (Sampson et al., 1997) and antisocial behaviors in children (Odgers et al., 2009), as well as with better physical health (Browning & Cagney, 2002). Studies applying CIT found that people who were more connected to their neighborhood storytelling network were more likely to have higher collective efficacy, which led to higher participation in civic activities (Kang, 2013; Kim & Ball-Rokeach, 2006b).

Socio-Psychological Disaster Recovery

Past studies have used different ways to define and assess disaster recovery. The majority of studies defined disaster recovery in terms of bringing the community back to predisaster conditions (Chang, 2010). Indicators of disaster recovery include physical reconstruction, such as that of housing, public buildings, businesses, local infrastructure, and population recovery (Aldrich, 2010). Cheng, Ganapati, and Ganapati (2015) proposed two ways of operationalizing local disaster recovery. One way is to assess how much the local area returned to predisaster conditions, and the other way is to compare the postdisaster development of an affected area with other unaffected areas with similar characteristics. In a study of local disaster recovery after the Kobe earthquake in 1995, Chang (2010) defined and measured the recovery in terms of population change, business recovery, and economic recovery measured by gross regional product.

Fewer studies measured disaster recovery by socio-psychological indicators. Regarding psychological recovery, studies have examined posttraumatic stress disorder (PTSD) as a psychological symptom that hinders disaster recovery (Cukor et al., 2011; Lai, Chang, Connor, Lee, & Davidson, 2004). For example, Bonanno, Galea, Bucciarelli, and Vlahov (2006) defined postdisaster resilience as an absence of PTSD. Aside from PTSD, however, not many studies have developed indicators to measure intangible recoveries.

The concept of socio-psychological disaster recovery proposed in this study is not only about overcoming PTSD, but also about more actively establishing a sustainable state of mind and social relations to cope with ongoing difficulties of the disaster (Doerfel, Chewning, & Lai, 2013; Tanisho, Smith, Sodeoka, & Murakami, 2015). Socio-psychological disaster recovery is all the more important in postnuclear disasters. The effect of a nuclear disaster lasts for many decades. The effect is also uncertain, especially in a case such as the Fukushima nuclear disaster. For example, there are significant variations in expert opinions on the health effects of low-level radiation following the Fukushima nuclear disaster. When high uncertainty continues for an extended period, people may continue to experience social and psychological anxiety even after their lives have seemingly returned to normal routines. Although assessing the degree of people's socio-psychological status is more challenging than evaluating physical and economic recoveries, measuring it and identifying antecedent factors can contribute to developing intervention programs to help people overcome difficulties.

In acknowledging the lack of research in socio-psychological indicators of disaster recovery, the current study proposes perceived life satisfaction and future outlook as two indicators of socio-psychological disaster recovery. Life satisfaction is a subjective assessment of one's quality of life (Diener, Emmons, Larsen, & Griffin, 1985; OECD, 2015). Life satisfaction was used as an indicator of psychological recovery from disaster and environmental degradation in several studies (Berger, 2010; Huang & Wong, 2014; Rehdanz & Maddison, 2008). Huang and Wong (2014), in their study of the Wenchuan earthquake in China, found that sense of community and satisfaction with governmental aid for recovery were positively associated with life satisfaction. Berger (2010) compared a secondary survey result before and after the Chernobyl nuclear disaster among German residents and found that environmental worries increased after the disaster, but there was no change in life satisfaction. Rehdanz and Maddison (2008) found that higher local air pollution significantly diminished subjective life satisfaction. In the current study, how people's life satisfaction varies in postdisaster circumstances and the ways in which people's community connectedness influence their life satisfaction are examined.

The second indicator of socio-psychological disaster recovery is future outlook, defined as perceived safety, sustainability, and disaster preparedness of the residents and the local community (Kwesell, 2013). Whereas life satisfaction concerns a present assessment of one's life, future outlook concerns a longer term prospect of individuals in their community. The concept is derived from the concept of resilience, which has been used as an umbrella term to indicate individuals' and communities' ability to adapt to and cope with a sudden disruption in their lives (e.g., Aldrich, 2012; Wang, Shi, Zhang, & Zhang, 2010). Among the factors that constitute a psychological aspect of resilience, positive outlook based on optimism, hope, courage, and confidence has been found to be an important indicator for coping with a disaster or difficult personal circumstances (Abramson et al., 2015; Berkes & Ross, 2013; Walsh, 2003). Future outlook is derived from studies of psychological resilience, but goes beyond to incorporate people's perceived future outlook not only about individuals themselves, but also about their community.[2]

The concept of future outlook is appropriate as a measurement in the post–nuclear disaster context (Doerfel et al., 2013; Tanisho et al., 2015). Because of the accident at the Fukushima Dai-ichi

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[2] To summarize the relationship among different terminologies, socio-psychological disaster recovery is operationalized as life satisfaction and future outlook. The concept of future outlook is derived from the literature of resilience, but is explicitly proposed to refer to individuals' perceptions about the safety, sustainability, and preparedness of themselves and their community. The definition is distinguished from a broader meaning attached to the term *resilience*, which includes physical, infrastructural, and systematic capabilities of individuals and communities to bounce back to the predisaster state and to overcome the disruption of disasters (for a detailed discussion, see Paton & Johnston, 2017).

Nuclear Power Plant, Fukushima has suddenly become globally infamous. Since the disaster, the prefecture and residents have been facing stigma attached to the name, such as being contaminated, unhealthy, dangerous, and deserted (Kwesell & Jung, 2019). Many residents left their hometown because of the stigma and danger of nuclear disaster. However, the majority of residents decided to stay in Fukushima after considering various options. For those who decided to continue their lives in Fukushima, having a more positive future outlook is likely to be one of the important indicators of their socio-psychological recovery from the disaster. While few studies have examined the relationship between community engagement and future outlook, literature on disaster resilience indicates that those who are connected to their local community and those who live in a community with a viable social network are more likely to cope with and recover from disasters faster than others (Aldrich, 2010; Chamlee-Wright & Storr, 2011).

Hypotheses and Research Questions

Based on communication infrastructure theory and past studies, two hypotheses and two research questions are proposed. Hypothesis 1 tests the relationship among the three neighborhood storytelling network variables. Studies have found that individuals who are connected to meso-level resources in the neighborhood, such as community organizations and local media, are more likely to talk with their neighbors about what is happening in their neighborhood (Ball-Rokeach et al., 2001; Matei & Ball-Rokeach, 2003). Being part of a community organization is likely to grant people social networks and exposure to community affairs. Closely following local media, such as local newspapers, cable channels, or newsletters, is likely to provide people with "story seeds" for talking with their neighbors about what is happening in their neighborhood.

H1: *Residents who are more connected to community organizations and local media are more likely to engage in conversations with their neighbors about what is happening in their neighborhood.*

Hypothesis 2 is based on past studies that found significant relationships between the connectedness to one's neighborhood storytelling network and collective efficacy (Kim & Ball-Rokeach, 2006b; Kim et al., 2019). People who are connected to the neighborhood storytelling network are more likely to have higher trust toward other residents and also have higher level of confidence that community members collectively will intervene and make a difference when a need arises.

H2: *Residents who are more connected to their neighborhood storytelling network (community organizations, local media, and interpersonal storytelling) are more likely to have higher collective efficacy.*

Research Questions 1 and 2 concern the influence of the neighborhood storytelling network and collective efficacy on two socio-psychological disaster recovery variables: life satisfaction and future outlook. While few studies have directly examined the relationship between the neighborhood storytelling network and the two dependent variables, several studies have examined the relationship between community engagement and life satisfaction (Berger, 2010; Huang & Wong, 2014), as well as community social network and resilience (Aldrich, 2010; Chamlee-Wright & Storr, 2011; Elliott et al., 2010). Because of the insufficient number of past studies, two research questions, rather than hypotheses, are proposed.

RQ1: *Are residents who are more connected to their neighborhood storytelling network (community organizations, local media, and interpersonal storytelling) and those who have higher collective efficacy more likely to have higher life satisfaction?*

RQ2: *Are residents who are more connected to their neighborhood storytelling network (community organizations, local media, and interpersonal storytelling) and those who have higher collective efficacy more likely to have a more positive future outlook?*

Research Methods

Research Site

As part of an ongoing research project led by the author to investigate the role of community connectedness on disaster recovery in Fukushima Prefecture, this study is based on a survey administered in Shinchimachi, Fukushima. Shinchimachi is a small coastal village located in the northeast corner of Fukushima Prefecture with 8,272 residents and 2,836 households (Shinchi Town, 2018). In addition to the survey research included in this article, the in-depth community-based research in Shinchimachi included interviews and focus groups.

Shinchimachi was chosen as a research site because of its unique location and situation, as well as the feasibility of conducting research in the community. Shinchimachi was affected by the tsunami on March 11, 2011, and 118 people died. Many homes and buildings were swept away by the tsunami. A total of 497 households were completely destroyed by the tsunami, and 22 houses were destroyed by the earthquake; this resulted in 1,512 residents moving into one of nine temporary housing developments, where many of them lived for the next four to five years (Shinchi Town, 2014). However, because they were approximately 50 kilometers away from the Fukushima Dai-ichi Nuclear Power Plant, Shinchimachi residents did not have to evacuate after the nuclear accident. Although the effect of the nuclear accident was weaker than in other areas in Fukushima, the radiation level in the air, soil, and ocean increased after the accident, and it severely affected the farming and fishing industries in the town. The difficulty of farming and fishing was due not only to the actual radiation contamination, but to the fact that Shinchimachi was part of Fukushima Prefecture. Whatever was "produced or caught in Fukushima" was automatically devalued and avoided (Wakamatsu & Miyata, 2017). Being part of Fukushima—affected by the tsunami, but not having to evacuate from the neighborhood—made Shinchimachi a suitable community to conduct this research. In addition, the author and her colleagues have been conducting in-depth interview research in Shinchimachi since 2011 (Kwesell & Jung, 2019), and a larger scale survey was a logical next step to further examine the relationship between community connectedness and socio-psychological disaster recovery.

Research Procedure

A survey was administered from July 2017 to June 2018. A stratified neighborhood sampling method was used to collect data. Shinchimachi has 15 administrative districts, and each district has an official head person appointed by the mayor of Shinchimachi. The researcher contacted every district head person, asking for cooperation in distributing the survey. Of 15 district head persons contacted, eight agreed to cooperate, and seven declined.[3] In four districts, head persons distributed and collected surveys. In the other four districts, head persons distributed the surveys to each household with a return envelope enclosed. Respondents in these districts sent back their surveys directly to the researcher. Because of the two different ways of collecting data, the response rate differed. For the districts in which the head person collected surveys, the response rate was 66%. In the districts in which the surveys were sent back by mail, the response rate was 20%. In total, 405 surveys were collected. The survey instruction asked an adult (20 years old or older) in the household to answer the questions.

The survey was first drafted in English and was translated into Japanese by a professional translator. The translation was reviewed by two persons who were bilingual in English and Japanese. A pilot study was conducted with five residents of Shinchimachi, who edited and gave comments about the survey. The researcher finalized the survey based on the edits and comments.

Measures

Life satisfaction was measured with five items adopted from the World Health Organization Quality of Life Index (World Health Organization, 2004). The items are: "How satisfied are you with your ability to perform your daily life activities?" "How satisfied are you with your social relationships?" "How satisfied are you with the support you get from your friends?" "How satisfied are you with the conditions of your living place?" and "How satisfied are you with the ways in which you enjoy your life?" Answer categories were: *not satisfied at all* (1), *not satisfied* (2), *neutral* (3), *satisfied* (4), and *very satisfied* (5; M = 3.48, SD = .65, Cronbach's α = .85).

Future outlook was measured with six items derived from past studies and interview research in Shinchimachi (Abramson et al., 2015; Doerfel et al., 2013; Kwesell, 2013). The items are: "I see a future for my children and grandchildren in Shinchimachi," "I feel safe in Shinchimachi," "I think the Shinchimachi community is stronger after March 11, 2011," "I think Shinchimachi will grow stronger in the

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[3] Given the extremely challenging situations that Fukushima residents have experienced since the disaster, they generally do not welcome researchers coming into their community and doing "research" about them. In addition, doing survey research is generally more difficult in Japan than, for example, in the United States because people are highly concerned about protecting "private information" (*kojinjouhou*) and are hesitant to fill out surveys even though their identities remain anonymous. This survey and other research activities were only possible because of the initial rapport that research members established in the community since 2011. The lack of community studies in Fukushima proves the difficulty of conducting such types of research. That said, research purposes were kept strictly confidential from the residents to avoid influencing their responses.

next 10 years," "I feel the children are safe in Shinchimachi," and "I think Shinchimachi is well prepared for any future disasters." A 5-point Likert scale (1= *strongly disagree*; 2 = *disagree*; 3 = *neutral*; 4 = *agree*; and 5 = *strongly agree*) was used to measure the items (M = 3.11. SD = .66, Cronbach's α = .86).

Connectedness to the neighborhood storytelling network was measured by three subdimensions derived from past studies based on communication infrastructure theory (Ball-Rokeach et al., 2001; Kim & Ball-Rokeach, 2006a): interpersonal storytelling, participation in community organizations, and connectedness to local media. *Interpersonal storytelling* was measured by one item: "How often do you talk with your neighbors about things happening in Shinchimachi? Using a 10-point scale where 1 means *never* and 10 means *all the time*, where would you place yourself?" (M = 5.80, SD = 2.77). *Connectedness to community organizations* was measured in terms of five types of organizations. Respondents were asked if they are part of any sports or hobby organizations; school-related organizations or groups; neighborhood associations (*chounaikai*); community-building organizations (*machizukuri*); and other types of organizations. Answer categories were *yes* (1), *no* (0), and *don't know* (0). Respondents' answers to the five-organizations question were added (M = 1.59, SD = 1.39). *Connectedness to local media* was measured by asking how important six types of local media are to keeping up with what is going on in Shinchimachi: local newspapers (e.g., *Fukushima Minpo*, *Fukushima Minyu*); public relations newsletters published by the Shinchimachi local government twice a month (*Kouhou Shinchi*); Facebook or Twitter; talking to neighbors; newsletters published by community organizations or groups (e.g., *Miraito Newsletter*); and the circular notice board (*kairanban*). Answer categories were: *not important at all* (1), *not important* (2), *so-so* (3), *important* (4), and *very important* (5; M = 3.26, SD = .74, Cronbach's α = .80).

Collective efficacy was measured in terms of two subdimensions: informal social control, and social cohesion and trust (Sampson et al., 1997). Informal social control was measured by asking respondents how many of their neighbors could be counted on to do something in the following six situations: "A stranger was found in an empty house in the neighborhood," "A street or a park was damaged by heavy rain or typhoon," "A park in which neighborhood kids often play has become unsafe because of poor maintenance," "You ask them to help organize a neighborhood event," "A child in your neighborhood is showing clear evidence of being in trouble or getting into big trouble," and "The trees along the streets in your neighborhood were uprooting the sidewalks, making them unsafe." A 5-point scale was provided: *none* (1), *a few* (2), *many* (3), *most* (4), and *all* (5; M = 3.06, SD = .81). Social cohesion and trust was measured by asking how much respondents agreed or disagreed (5-point Likert scale) with six statements: "This is a close-knit neighborhood," "People in this neighborhood can be trusted," "I feel connected to my neighbors," "People in this neighborhood generally get along with each other," "People around here are willing to help their neighbors," and "People in this neighborhood share similar values" (M = 3.24, SD = .83). A collective efficacy variable was created by combining the two subscales (M = 3.15, SD = .70, Cronbach's α = .91).

Income, education, age, gender, residential tenure, and mainstream media for news were included in the analysis as control variables. Income was measured by last year's household income. Twelve answer categories ranged from *less than 1 million yen* (1) to *20 million yen or higher* (12; M = 4.40, SD = 2.31). *Don't know* and *Do not want to answer* categories were also provided and were counted as missing. Education was measured by respondents' final educational levels: *elementary/middle school graduate* (1), *high school graduate* (2), *technical college graduate* (3), *university graduate*, (4) and *postcollege degree* (5; M = 2.27, SD = 2.31). Age was asked in an open-ended format (M = 61.25, SD = 14.29). Gender was asked by three answer categories: *male* (0), *female* (1), and *other* (male = 52.5%, female = 47.5%). Residential tenure was measured by asking how long the respondent had lived in Shinchimachi (M = 45.26, SD = 23.3). Mainstream media for news was measured by asking, "Which media do you use to get news and information?" Answer categories were television, paper-based national newspapers, Internet newspapers, radio, SNS, and others. A variable of mainstream media for news was created by counting positive answers to the six types of media (M = 2.62, SD = 1.09).

Results

Table 1 displays zero-order correlations of all the variables included in this study.

Table 1. Zero-Order Correlations of Variables.

	1	2	3	4	5	6	7	8	9	10	11
1. Life satisfaction											
2. Future outlook	.36**										
3. Interpersonal storytelling	.33**	.22**									
4. Community organization	.35**	.19**	.27**								
5. Local media	.35**	.39**	.37**	.22**							
6. Collective efficacy	.42**	.38**	.39**	.25*	.51**						
7. Income	.11*	.01	.02	.11*	−.07	.01					
8. Education	.11*	.03	−.10*	.18**	−.07	−.05	.23**				
9. Age	.14**	.10	.23*	.10	.21**	.23**	−.27**	−.26**			
10. Gender (female)	.04	−.05	−.03	−.01	.06	−.03	−.02**	.03	−.04		
11. Residential tenure	.10	.11*	.22**	.08	.26**	.27**	−.17**	−.26**	.65**	−.13**	
12. Mainstream media for news	.16**	.09	.12*	.26**	.13*	.17**	.10	.16**	−.01	−.10	.07

* $p < .05$. ** $p < .01$.

Multiple linear regression analyses were conducted to test hypotheses and research questions. Hypothesis 1 tested the effects of connectedness to community organizations and to local media on interpersonal storytelling (Table 2). Connectedness to both community organizations (b = .23, $p < .01$) and local media (b = .29, $p < .01$) had significant effects on interpersonal storytelling, controlling for education, income, age, gender, residential tenure, and mainstream media for news. The R^2 change in Model 2 (ΔR^2 = .15) was significant. Hypothesis 1 was supported.

Table 2. The Effects of Connectedness to Community Organizations and to Local Media on Interpersonal Storytelling.

	Interpersonal Storytelling (Standardized coefficient)	
	Model 1	Model 2
Education	−.08	−.11*
Income	.11	.10
Age	.20**	.16*
Gender (female)	.02	−.02
Residential tenure	.05	−.02
Mainstream media for news	.13*	.03
Community organization		.23**
Local media		.29**
R^2 (ΔR^2)	.08	.23 (.15**)
F	4.75**	11.67**
N	330	330

* p < .05. ** p < .01.

Hypothesis 2 concerned the effect of three storytelling network variables on collective efficacy (Table 3). Interpersonal storytelling (b = .17, p <.01) and connectedness to local media (b = .41, p <.01) had significant effects on collective efficacy, whereas connectedness to community organizations did not. The R^2 change in Model 2 (ΔR^2 = .23) was significant. Hypothesis 2 was partially supported.

Table 3. The Effects of Connectedness to Neighborhood Storytelling Variables on Collective Efficacy.

	Collective Efficacy (Standardized coefficient)	
	Model 1	Model 2
Education	.00	.01
Income	.05	.04
Age	.11	.05
Gender (female)	−.01	−.07
Residential tenure	.18*	.08
Mainstream media for news	.15**	.04
Interpersonal storytelling		.17**
Community organization		.08
Local media		.41**
R^2 (ΔR^2)	.10	.33 (.23**)
F	5.56**	17.00**
N	322	322

* p < .05. ** p < .01.

Research Question 1 inquired about the effects of the neighborhood storytelling network and collective efficacy on life satisfaction. A hierarchical regression analysis was conducted. After accounting for control variables, all three storytelling variables had significant effects on life satisfaction (Model 2 in Table 4). When collective efficacy was entered in the final model, connectedness to community organizations (b = .20, p < .01) and collective efficacy (b = .27, p <.01) had significant effects on life satisfaction. R^2 changes in Model 2 (ΔR^2 = .16) and 3 (ΔR^2 = .05) were significant.

Table 4. The Effects of Connectedness to Neighborhood Storytelling Networks and Collective Efficacy on Life Satisfaction.

	Life Satisfaction (Standardized coefficient)		
	Model 1	Model 2	Model 3
Education	.11	.09	.09
Income	.14*	.11*	.10*
Age	.21**	.14*	.13
Gender (female)	.08	.04	.06
Residential tenure	.02	−.05	−.07
Mainstream media for news	.10	−.01	−.02
Community organization		.22**	.20**
Local media		.22**	.10
Interpersonal storytelling		.15**	.11
Collective efficacy			.27**
R^2 (ΔR^2)	.08	.24 (.16**)	.29 (.05**)
F	4.45**	10.95**	12.70**
n	317	317	317

* p < .05. ** p < .01.

Research Question 2 examined the effects of the neighborhood storytelling network and collective efficacy on future outlook (Table 5). In Model 2, in which three neighborhood storytelling network variables were entered, connectedness to community organizations (b = .11, p <. 05) and to local media (b = .44, p <. 01) showed significant effects on future outlook. In Model 3, in which collective efficacy was entered, local media (b = .34, p < 01) and collective efficacy (b = .26, p < .01) had significant effects on future outlook. R^2 changes in Model 2 (ΔR^2 = .21) and Model 3 (ΔR^2 = .04) were significant.

Table 5. The Effects of Connectedness to Neighborhood Storytelling Networks and Collective Efficacy on Future Outlook.

	Future Outlook (Standardized coefficient)		
	Model 1	Model 2	Model 3
Education	.10	.11	.11
Income	.00	.00	−.01
Age	.03	−.01	−.02
Gender (female)	−.01	−.07	−.06
Residential tenure	.06	−.04	−.06

Mainstream media for news	.03	−.08	−.09
Community organization		.11*	.09
Local media		.44**	.34**
Interpersonal storytelling		.03	−.01
Collective efficacy			.26**
R^2 (ΔR^2)	.02	.23 (.21**)	.27 (.04**)
F	.79	9.67**	11.00**
N	309	309	309

* $p < .05$. ** $p < .01$.

Discussion

The study examined the ways in which people's connectedness to their neighborhood resources, such as neighbors, community organizations, and local media, influenced their socio-psychological disaster recovery, measured by life satisfaction and future outlook. Residents' connectedness to community organizations had a direct effect on life satisfaction, while their connectedness to local media and interpersonal storytelling had indirect effects on life satisfaction via collective efficacy. On the other hand, connectedness to local media had a direct, positive effect on future outlook, while connectedness to community organizations and interpersonal storytelling had indirect effects on future outlook. Collective efficacy had direct and positive effects on both life satisfaction and future outlook.

Implications of the Study

One of the most important contributions of this study is the examination of the relationship between neighborhood variables and disaster recovery. In particular, this is one of the first studies to demonstrate that there are significant relationships between people's connections to their neighborhood storytelling network and their socio-psychological disaster recovery. While reconstruction of facilities, infrastructures, and businesses is an important measure of disaster recovery, people's social and psychological recovery is as important and difficult to achieve. Two measures of socio-psychological disaster recovery, life satisfaction and future outlook, demonstrated high reliabilities and served as valid dependent variables. More future research in developing and testing the "soft recovery" measures are desirable and will add much value to disaster recovery research.

The results about the relationships among the neighborhood storytelling network variables and their effects on collective efficacy support past studies based on communication infrastructure theory (Ball-Rokeach et al., 2001; Kim & Ball-Rokeach, 2006a). Meso-level storytelling networks—community organizations and local media—were found to significantly influence micro-level interpersonal neighborhood storytelling. The interpersonal storytelling in this study specifically refers to talking to neighbors about what is happening in the neighborhood rather than about general topics. Residents who are part of community organizations, such as hobby groups, child-related organizations, or residents' associations, are more likely to, first, know people in the neighborhood, and second, be exposed to issues and activities in the neighborhood. In addition, those who regularly follow local media are more likely to know what is happening in the neighborhood and thus are more likely to talk to their neighbors about local affairs. The study result confirms that being connected to meso-level communication resources is likely to facilitate neighborhood storytelling among neighbors. To facilitate residents' conversation about neighborhood affairs, which was found to have significant effects on civic engagement, collective efficacy, and a sense of belonging to one's neighborhood (Ball-Rokeach et al., 2001; Kim & Ball-Rokeach, 2006b), policy makers and local leaders should facilitate community organizations and devote efforts to enhancing people's connections to local media.

Those who often talk with their neighbors about neighborhood affairs and those who closely follow local media were found to have higher collective efficacy than others. Types of local media that were highly used by Shinchimachi residents included local newspapers, magazines published by the local government, and *kairanban* (a folder with neighborhood news and information passed around among the residents of an administrative district). The more they are connected to these types of local media and talk with their neighbors about neighborhood affairs, the more they are likely to think that "we" as residents can control and manage the surroundings based on trust and cohesion. To develop collective efficacy in a neighborhood, both micro-level interpersonal storytelling and meso-level local media connectedness should be initiated.

Collective efficacy had direct effects on both life satisfaction and future outlook. Those who believe in the ability of their community to take action when certain needs for intervention arise are more likely to be satisfied with their lives and also have a more positive future outlook about their community. Adding to the past studies that have found collective efficacy to be effective in reducing violence in the neighborhood and enhancing physical health (Browning & Cagney, 2002; Sampson et al., 1997), the present study's result emphasizes the significance of collective efficacy for socio-psychological well-being in postdisaster situations. Paths from the neighborhood storytelling network to collective efficacy to two disaster recovery variables provide important ways in which policy makers and community leaders can approach, and take action in, helping people recover from disasters. Efforts have been made to help people in Fukushima overcome traumatic experiences, but most of the efforts have been targeted toward improving individuals' mental health by providing counseling services or a helpline. The result of the present study emphasizes that community-level interventions, such as facilitating people's participation in community organizations or activating local media, can be effective ways for people to cope with disaster, achieve higher life satisfaction, and hold a more positive future outlook.

One of the interesting findings of the study is that connectedness to community organizations has a direct positive effect on life satisfaction, while connectedness to local media has a direct positive effect on future outlook. Being part of community organizations and engaging in organizational activities are likely to enhance life satisfaction. In fact, after the Great East Japan Earthquake, many residents mentioned that community organizations played important roles in Shinchimachi, which was severely hit by the tsunami and affected by the nuclear accident (Kwesell & Jung, 2019). For example, a community organization created immediately after the disaster in Shinchimachi has played an important role in disaster recovery. People involved in the organization initially started cleaning up the neighborhood after the earthquake and tsunami; they continued on to develop many programs for residents, particularly for local children, to come together and engage in fun and reflective activities with fellow residents. Those who have been involved in organizing these activities may have turned the frustration and difficulties of coping with the disaster into a sense of achievement and belongingness. Past studies have noted that taking certain actions, rather than remaining passive, helps overcome difficulties after going through personal tragedies or disasters (Zakour, 2012). One of the leaders of the organization mentioned that his life goal has expanded after the disaster, from earning money and supporting his family to doing something meaningful for the community (Kwesell & Jung, 2019). Through these processes, people may have been able to recover, to a certain extent, and enhance their life satisfaction despite experiencing devastating disaster.

Connectedness to local media having a direct effect on future outlook is also intriguing. Given that the future outlook variable concerns the community, such as the safety of children in Shinchimachi and the likelihood that Shinchimachi will grow as a community in the next 10 years, people who closely follow local media and consider local media to be important are likely to develop close attachment and a sense of belonging to their neighborhood (Ball-Rokeach et al., 2001). Knowing what is going on in the neighborhood, including actions and interventions by community organizations and the local government, may help people develop a more positive future outlook. For example, Rausch (2013) found that regional newspapers in Fukushima and adjacent areas extensively reported about the nuclear disaster and recovery prospects; these reports were more targeted to the local areas, which likely helped people be on top of important information in coping with disasters. More research should be conducted on the role of local media, in addition to mainstream media, in disaster situations and in the disaster recovery process. Furthermore, specifically examining the political and economic context of postdisaster Fukushima and how local media balance the roles of informing and assisting residents in rebuilding communities, on the one hand, and maintaining a critical stance in watching the government and nuclear power industry approach the nuclear disaster recovery, on the other, would enhance richer understanding of local media in postdisaster situations.

Limitations and Future Implications

The study has limitations. This study was conducted in one coastal village in northeastern Fukushima, about 50 kilometers north of the Fukushima Dai-ichi Nuclear Power Plant. Being a coastal village, Shinchimachi was severely affected by the tsunami. Many residents had to live in temporary housing for several years and eventually settled into a new neighborhood. However, residents of Shinchimachi did not have to evacuate following the nuclear accident. Different villages in Fukushima Prefecture had different types of destruction and different experiences. Therefore, caution should be employed in generalizing the study result to the wider area. That said, being a resident of Fukushima, regardless of the proximity to the nuclear power plant, has taken on many negative connotations related to radiation contamination and health. Residents of Shinchimachi mentioned that they felt stigmatized when interacting with people from outside Fukushima and sometimes avoided telling people that they were from Fukushima (Kwesell & Jung, 2019). In such ongoing circumstances, examining socio-psychological recovery is likely to be highly relevant and important for residents in any part of Fukushima. Future studies should examine relationships between neighborhood variables and socio-psychological recovery in other areas of Fukushima.

In applying communication infrastructure theory, this study did not actively incorporate communication action context variables. The particular context of Shinchimachi—its population characteristics, social resources, and physical infrastructure—has influenced and shaped its neighborhood storytelling network. In future studies in which Shinchimachi is compared with other neighborhoods in Fukushima, the influence of different communication action contexts on storytelling networks and socio-cultural disaster recovery should be examined.

The study employed a stratified neighborhood sampling method based on administrative districts in Shinchimachi, but could only conduct a survey in eight of 15 districts because of the difficulty obtaining cooperation from district head persons despite multiple attempts. This may have affected the characteristics of the data. In addition, distributing the survey via district head persons may have affected the sample. Comparing the study data with census data (Shinchi Town, 2018), the gender breakdown is similar (study data: male: 52.5% vs. census data: male: 50.7%), while those aged 65 years and older were overrepresented in the study sample (study data: 45% vs. census data: 35%). The sampling limitations should be taken into consideration in generalizing the study results.

The survey respondents being older and from a rural area likely influenced their media use patterns. The respondents of the study were more likely to rely on traditional media, such as television, newspapers, and radio, than new media, such as the Internet and, particularly, social media (56% of the respondents do not use the Internet). This indicates the ongoing digital divide, even in a technologically advanced society such as Japan (Pick & Sarkar, 2015). Several studies have examined the role of digital media after the Great East Japan Earthquake (e.g., Hjorth & Kim, 2011; Kaigo, 2012; Peary, Shaw, & Takeuchi, 2012), and more studies should be conducted to monitor the use of digital media in coping with the disaster.

Despite limitations, the study highlights the importance of individual- and neighborhood-level connections in coping with difficult situations such as natural or human-made disasters. No community is safe from disasters, such as earthquakes, terror attacks, shootings, and other events. While this study is about the case of nuclear disaster in which certain postdisaster situations are unique, the study result nonetheless can be applied to other disaster situations. In any type of major disaster, knowing many neighbors and having a support group in the neighborhood to rely on and through which people help one another are likely to be crucial in coping with disasters. The study results are likely to inform individuals, researchers, policy makers, and local leaders about the importance of local-level communication infrastructure and social connections in being prepared for possible future disasters.

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Portrait of a Crisis: The Crucial Role of News Media Coverage and Perceived Effectiveness of a New Party

JOOST VAN SPANJE
RACHID AZROUT
University of Amsterdam, The Netherlands

For new parties, it is arguably crucial to receive news media attention. News media help shape a new party's image. What aspects such an image is made of is not clear from the literature. Some scholars have argued that a new party's perceived effectiveness is key. But is it really? Ideally, we would test this in the "clean" context of a new party that clearly falls to an abysmal state, of which increasing numbers of voters become aware. In 2014, the Dutch party 50Plus experienced exactly that. The present study examines this case, using a mixed-methods approach, involving a voter panel survey, an automated media content analysis, and a quasiexperiment. The findings show the dominant role of perceived effectiveness mediating the effect of visibility and tone of 50Plus coverage on propensity to vote for that party. Implications are discussed in light of the role of news media in democratic societies.

Keywords: new parties, seniors' parties, elections, news media, perceived party effectiveness, quasiexperimental setting, media content analysis, panel survey

In June 2018, Movimento Cinque Stelle (Five Star Movement) formed a government coalition in Italy. Nine months earlier, Alternative für Deutschland (Alternative for Germany) shocked the world by entering the Bundestag (Germany federal parliament). Less than two years before that, Podemos (Spanish political party) obtained 21% of the vote in its first general election in Spain. The spectacular success of these and other new parties throughout Europe is truly impressive.

Yet, such success stories are only the (successful) tip of the (largely unsuccessful) new party iceberg. For instance, in the Netherlands since 1948 new parties that failed to obtain national parliamentary representation have outnumbered new parties that succeeded 10 to one (Krouwel & Lucardie, 2008). What allows new parties to survive the onslaught of electoral competition, and what causes them to die?

Joost van Spanje: j.h.p.vanSpanje@uva.nl
Rachid Azrout: r.azrout@uva.nl
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This is an important question. New party entry may, on the one hand, be healthy for a democratic system: New parties often carry new political ideas and bring new voices, and openness to new ideas and voices is a necessary condition for democracy. On the other, it may be problematic to have too many new parties. This is because frequent new party entry may reduce the quality of representation, preventing voters from having meaningful ties with parties (cf. Tavits, 2006).

Political scientists seem unable to offer a clear answer to this question. Obviously, news media should be part of any such answer. However, studies of new parties pay little attention to news media. As well, studies of news media pay little attention to new parties. As a result, the many assertions that news media matter for new party success (e.g., Bolleyer, 2013, p. 8; Lucardie, 2000, p. 182) have not translated into clear ideas of how exactly news media matter.

In the present study, we take a modest step beyond the relevant literature in four ways. First, we propose a theoretical mechanism through which news media affect voting for new parties. Building on literature on anti-immigration parties, we argue that a particular factor plays a role: perceived party effectiveness. Second, we construct a scale to measure perceived effectiveness. This scale turns out to be highly reliable in the context of our study. Third, we use a novel theoretical model of media effects, applying it to electoral behavior. Fourth, we employ a mixed-methods approach, combining observational and quasi-experimental data, to empirically test media effects on voting for a new party.

To test the mechanism, we would need variation in news media attention and in perceived effectiveness. Ideally, we would study a clear worst case scenario for a new party, in which that party is split in two, both halves engaging in a relentless fight played out in the media. The case of the Dutch seniors' party 50Plus in 2014 offers precisely this. Studying this case allows us to draw valid inferences on effects of exposure to news media coverage of a new party on its perceived effectiveness and of propensity to vote for that party. This way, we significantly further our understanding of electoral success and failure of new parties in mature democracies.

New Parties

The new party literature dates back about 40 years. Having started off in a U.S. context (Rosenstone, Behr, & Lazarus, 1984; Sundquist, 1983), it soon crossed the borders and ventured into, most notably, Western Europe. Some studies focused on just one country (Lago & Martinez, 2011), and others focused on nine or more (e.g., Hauss & Rayside, 1978).

In terms of time period, Rochon (1985) goes back as far as 1918 and Rosenstone and colleagues (1984) as far as 1840, whereas most studies start either in the wake of WWII (Hino, 2006; van de Wardt, Berkhout, & Vermeulen, 2017) or in 1960 (Bolin, 2014; Zons, 2015).

The literature also varies in its scope in other ways. Some studies focus on one particular new party (e.g., the German Green Party in Schmitt-Beck, 1994), and others focus on one new party type (e.g., anti-immigrant parties in van der Brug, Fennema, & Tillie, 2000). Relatively few studies concern new parties more generally, and from a comparative perspective.

New Parties and News Media

A key element missing from the new party literature is the role of news media. Although news media are doubtlessly crucial for new parties, work on news media coverage of new parties is relatively scarce. Hardly any study has even mentioned the possibility that news media would have an impact on new parties' electoral performance.

Exceptions include Lucardie (2000) and Bolleyer (2013). However, they mention media only in passing. Lucardie claims that "mass media may nip a new party in the bud by ignoring or ridiculing it when it tries to enter the political arena" (p. 180). Bolleyer remarks that "increased media attention following national breakthrough is as much an opportunity to showcase achievements as to expose incompetence" (p. 8). Although both scholars should be commended for bringing in the media, neither tells us under which circumstances or how news media affect the electoral performance of new parties, or what it is in the media image that might scare away voters. All in all, this leaves us with little knowledge about the electoral effects of the coverage of new parties.

Perhaps most of the work that actually acknowledges the importance of news media is about new parties on the right side of the political spectrum (Birenbaum & Villa, 2003; Ellinas, 2010; Mazzoleni, 2003; Plasser & Ulram, 2003; Schafraad, d'Haenens, Scheepers, & Wester, 2012). Coverage of new parties more generally has not often been mapped; the reasons for the considerable variation in new party coverage have remained largely unexplored.

New Parties, News Media, and the Vote

In his study of a newspaper's newsroom, White (1950) found that 90% of the wire copy was rejected. Similarly, an enormous amount of news about new parties is "killed" every campaign day, and an enormous number of new parties is "killed" every election day: Even in the permissive Dutch context, 90% of the parties fail to obtain representation in their first general election (Krouwel & Lucardie, 2008). Does the one cause the other, and if so, how and to what extent?

The literature on news media coverage tends to focus on established parties (Baumgartner & Chaqués-Bonafont, 2015). Established parties receive attention from news media and benefit electorally from such attention in various ways (Hopmann, Vliegenthart, de Vreese, & Albaek, 2010; Kleinnijenhuis, van Hoof, Oegema, & de Ridder, 2007). New parties are a different matter. For them, it is both more difficult and more important to receive news media attention (cf. Art, 2006; Bennett, 1990).

However, little empirical knowledge exists on election outcomes regarding new parties in general. In fact, there is even lack of consensus on what to measure in this respect. Rosenstone et al. (1984) studied both the emergence of new parties and their performance, and Hug (2000) followed them in this. However, some colleagues studied only their emergence (Bolin, 2014; Lago & Martinez, 2011), and others focused on their performance (Bolleyer & Bytzek, 2017; Willey, 1998). Others studied their durability (e.g., Bolleyer, 2013) or their sheer number in combination with performance (Harmel & Robertson, 1985) or emergence (Zons, 2015). In any case, rigorous studies on why some new parties succeed and (most) others fail do not exist.

Again, quite some research exists about media effects on support for right wing new parties (Burscher, van Spanje, & de Vreese, 2015; Vliegenthart, Boomgaarden, & van Spanje, 2012; van Spanje & Azrout, 2019b). Research explicitly linking news media attention to electoral performance starts from the finding that support for "right wing populist leaders" is motivated by the same types of ideological and pragmatic considerations as support for established leaders (cf. van der Brug et al., 2000). Those studies tested whether there are differences between right wing populist leaders and other leaders in terms of the effect of news coverage on their electoral performance. They found no such differences (Bos, van der Brug, & de Vreese, 2010, 2011).

To investigate this, Bos and colleagues (2010, 2011) looked at news media coverage of right wing populist leaders, on the one hand, and perception of these politicians, on the other. Relevant ways to cover them include "prominence" and "authoritativeness." They assert that prominence signals that a new party is

> one of the parties that may get to power, or they are at least in sight of a number of seats in parliament. Hence, if voters want to influence the political game, voting for these parties is rational and will not lead to a lost vote. (Bos et al., 2011, p. 197)

Authoritativeness "refers to how knowledgeable a politician appears to be" (Bos et al., 2011, p. 183). Relevant voter perceptions include "effectiveness" (Bos & van der Brug, 2010; Bos et al., 2010, 2011). These leaders should strike a balance between ensuring prominence by being provocative and ensuring perceived effectiveness. "Right-wing populists who are able to reach that balance . . . will be most successful" (Bos et al., 2010, p. 143).

Hypotheses

In the present article, we measure evaluative tone instead of authoritativeness. We build on the concepts of prominence and tone in news media coverage and the concept of perceived effectiveness in the eyes of news consumers. Consistent with the relevant literature (Bos et al., 2011; Hopmann et al., 2010), we expected that the volume of exposure to the new party in the news media would increase voters' propensity to vote for it (H1). At the same time, in accordance with the literature (Bos et al., 2011; Hopmann et al., 2010), we expected that tone would matter for the propensity to vote in such a way that a more positive (or negative) tone of the coverage of a new political party would increase (or decrease) the propensity to vote for that party (H2). Except for a main effect of tone, we also expected tone to moderate the effect of the volume of exposure in such a way that when the tone is more positive, the marginal effect of the volume of exposure would have a positive effect on the propensity to vote (H3a), and when the tone is more negative, the marginal effect of the volume of exposure would have a negative effect on the propensity to vote (H3b). Extending the argument made by Bos and colleagues (2010, 2011), we hypothesized that these effects of news media coverage on vote propensity would be mediated by the perceived effectiveness of that new party (H4).

The Case of 50Plus in 2014

Seniors' parties have emerged all across Europe. In Western Europe, they have surged in all countries except France, Iceland, and Ireland (Hanley, 2010). In Eastern Europe, they have sprung up in every country except Albania, Latvia, Lithuania, and Moldova (Hanley, 2010). In 2012, 50Plus contested its first Dutch general election. It is one of 18 parties that gained representation in the national parliament at its first attempt out of 183 new parties since 1948. Of 15 seniors' parties, 50Plus was the third success case in that respect. The vote for the party is mainly related to age in combination with education and subjective income: The party tends to attract older voters who are not highly educated and who consider themselves poor, almost regardless of their ideological and policy orientations, institutional trust, and government satisfaction (van Spanje & Azrout, 2019a). Led by Jan Nagel (then 73 years old) and Henk Krol (age 62), the party received 1.9% of the vote, which translated into two parliamentary seats. These seats were held by Martine Baay-Timmerman (age 55) and Norbert Klein (age 56) when a major crisis struck the party two years later.

On May 28, 2014, both 50Plus/Baay-Timmerman and 50Plus/Klein were created. Both of them were parliamentary groups in the Lower House of the Dutch Parliament. These groups were created as a result of a dispute between the two MPs. Baay-Timmerman was ousted from the party by Norbert Klein, after which the 50Plus board in turn forced out Klein. Both groups claimed the name "50Plus," and the infighting dragged on for weeks.

To make matters worse, all this did not go unnoticed by the news media. In the country's nine main news outlets combined, no fewer than 282 news items mentioned 50Plus between December 2013 and June 2014, about 60% of the paragraphs having a clear negative tone compared with only 7% having a positive tone. Thus, Dutch news consumers were all but bombarded with bad news about 50Plus around that time. The news coverage of 50Plus is likely to have been particularly low on authoritativeness and negative in terms of tone.

As a clear example of a party split, such escalating internal conflict is arguably the worst that can happen to a new party. No matter how convinced about the policy issue positions the new party advocates, voters will be reluctant to support that party in such circumstances. Not only does the conflict scare off voters, it will also leave them confused about the party, eating away its perceived effectiveness. Thus, this creates the perfect opportunity to address the questions we ask in our article. Although we could also make this point by examining a different case, it would be a problem that another case would be less clear-cut.

Method

To test our hypotheses, we made use of data from a six-wave panel survey from the Netherlands (see de Vreese, Azrout, & Möller, 2014). The first four waves were collected in the context of the 2014 European Parliament Election Campaign study (Wave 1: December 13–26, 2013; Wave 2: March 20–30, 2014; Wave 3: April 17–28, 2014; Wave 4: May 26–June 2, 2014); Wave 5 (June 20–26, 2014) was collected specifically to follow the public's response to issues playing in the seniors' party; the sixth wave

(March 1–9, 2016) was collected in the context of a national referendum.[1] Fieldwork was administered by TNS NIPO Netherlands, which maintains a panel of 200,000 adults recruited through multiple strategies (e.g., telephone, face-to-face, and online). Membership in the panel is by invitation only to ensure sample quality and representativeness. For this study, a random sample was drawn from the database, with quotas set on age, gender, and education (N_{Wave1} = 2,189, American Association for Public Opinion Research response rate 1 = 78.1%; N_{Wave2} = 1,819, recontact rate = 83.1%; N_{Wave3} = 1,537, recontact rate = 84.5%; N_{Wave4} = 1,379, recontact rate = 89.7%; N_{Wave5} = 1,174, recontact rate = 85.1%; N_{Wave6} = 1,019, recontact rate = 86.8%). The survey was done using computer-assisted Web interviewing.

To account for the content respondents were exposed to, we combined the survey data with data from an automated content analysis of the eight most-read newspapers in the Netherlands (*de Telegraaf*, *Algemeen Dagblad*, *de Volkskrant*, *NRC Handelsblad*, *NRC Next*, *Trouw*, *Metro*, and *Sp!ts*). This mix offers ideological variation, and includes both free and paid newspapers and both tabloids and quality newspapers. We also added data from the most widely used online-only news source nu.nl, which has an audience of more than 2 million unique news consumers per day.

The newspaper articles were collected through the database of Nexis Uni; the articles from nu.nl were collected through their online archive. We collected all articles that mentioned 50Plus or one of its main politicians[2] that were published between November 13, 2013 (two weeks prior to the fieldwork of Wave 1 of the panel survey), and June 26, 2014 (the last day of the fieldwork of Wave 5), and between February 17 and March 9, 2016 (two weeks prior to the first day of the fieldwork of Wave 6 until the last day). The total number of articles was 428. The corpus of the material was analyzed at the paragraph level (*N* = 6,810).[3]

This six-wave panel survey was linked to content data from news media, so that we had repeated measures of the dependent variable, the independent variables, and the mediator, which allowed an over-time analysis. In addition to this, we had a quasiexperimental setting. This was because the split of 50Plus occurred during the fieldwork of the fourth wave. We used this quasiexperimental setting to test our hypotheses, considering every respondent interviewed before the event was "not assigned treatment" and every respondent interviewed after was "assigned treatment." For the "treated" respondents, we also used the additional information of the extent to which they had been exposed to news about 50Plus after the event, so as to be surer of the respondents having received treatment.

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[1] The sixth wave is two years apart from the other waves, and as such some may comment that the long time period in between threatens the validity of our findings. However, we also ran our models excluding the sixth wave, and the results directly parallel the findings reported in this article (results available from the authors).

[2] Search string used in both Nexis Uni and nu.nl: (50PLUS) OR (Jan Nagel) OR (Henk Krol) OR (Norbert Klein) OR (Martine Baay) OR (Toine Manders).

[3] Because we linked the media data to each individual by using the media data two weeks prior to each interview, data of a total number of 290 articles and 4,448 paragraphs were actually linked to the voter data.

Operationalization

Propensity to Vote 50Plus

Our dependent variable was measured in a block of questions asking for the propensity to vote for all 11 parties represented in the national parliament. The question was worded as follows: "We have a number of parties in our country, each of which would like to get your vote. How probable is it that you will ever vote for the following parties? Please specify your views on a 10-point scale where 1 means *not at all probable* and 10 means *very probable*." The answering options also included a "don't know" option (proportion responding "don't know": Wave 1 = 6.9%; Wave 2 = 5.8%; Wave 3 = 5.6%; Wave 4 = 5.3%; Wave 5 = 3.5%; Wave 6 = 7.1%). As we were interested in the propensity to vote for 50Plus, we used only the answer given for that party (M_{Wave1} = 2.95, SD_{Wave1} = 2.55; M_{Wave2} = 3.07, SD_{Wave2} = 2.54; M_{Wave3} = 2.95, SD_{Wave3} = 2.59; M_{Wave4} = 2.95, SD_{Wave4} = 2.59; M_{Wave5} = 2.60, SD_{Wave5} = 2.26; M_{Wave6} = 2.93, SD_{Wave6} = 2.43).

Volume of Exposure

To assess the volume of exposure (i.e., mere exposure to 50Plus in the consumed news media), we first turned to the content analysis. We counted the number of paragraphs that mentioned either the party or one of its main politicians. This led to a daily count of the number of paragraphs for each news outlet. We linked these data to the survey by means of a self-reported news exposure measure. We asked the respondents how many days in a typical week they read each of the eight newspapers and the online news website.[4] In a next step, comparable studies typically measure the coverage before the survey wave and link every respondent to this coverage before that wave. In the present study, however, in the fourth wave a relevant event took place during the fieldwork. Thus, we chose to link each respondent to news media content data at the daily level. For this, we used the following formula:

$$50PlusExposure_{r,w} = \sum_{i=1}^{9}\left(outletExposure_{i,r,w} * \sum_{d=-13}^{0} paragraphs_{i,d}\right).$$

This formula calculates the exposure to 50Plus in wave *w* of respondent *r* by first taking the sum of the paragraphs in newspaper *i* of the 14 days *d* prior to the interview, multiplying this by the number of days respondent *r* reported reading outlet *i* in wave *w*, and summing this for all nine outlets. The value of the variable increases as a respondent more often uses a particular news outlet (that reports on 50Plus) and as the news outlet (that the respondent uses) increases its coverage of 50Plus (M_{Wave1} = 22.56, SD_{Wave1} = 25.57; M_{Wave2} = 36.62, SD_{Wave2} = 38.14; M_{Wave3} = 57.59, SD_{Wave3} = 77.80; M_{Wave4} = 100.43, SD_{Wave4} = 120.57; M_{Wave5} = 370.82, SD_{Wave5} = 351.35; M_{Wave6} = 13.46, SD_{Wave6} = 15.07). Because of the large range of volume of exposure (and as a result very small unstandardized coefficients indistinguishable from zero with two decimals), we rescaled the variable by dividing the scores by 1,000.

[4] This question was not asked in Wave 5, so we used the responses in Wave 4 as proxies.

Tone of Exposure

To assess the tone of exposure, we first needed to assess the tone of the news coverage. For this, we relied on an automated content analysis using the SentiStrength algorithm (Thelwall, Buckley, Paltoglou, Cai, & Kappas, 2010). The algorithm assigns a sentiment score to short texts by comparing them with a language-specific word list. In the list, words are assigned a score from very negative to very positive. In addition to searching for individual words, the algorithm also looks at particular combinations of words, such as negation words that reverse the sign of the sentiment (e.g., "not good") and booster words that increase the absolute sentiment (e.g., "very good"). The algorithm has been validated by comparing algorithm results with manual coding (Thelwall, Buckley, & Paltoglou, 2012), also specifically in Dutch (Wojcieszak & Azrout, 2016). Using the algorithm, we counted the number of paragraphs with a positive tone and the number of paragraphs with a negative tone. We used this as input for creating an exposure measure to both positive paragraphs and negative paragraphs, and created the tone measure using the following formula:

$$toneExposure_{r,w} = \frac{\sum_{i=1}^{9}\left(outletExposure_{i,r,w} * \sum_{d=-13}^{0} positiveParagraphs_{i,d}\right) - \sum_{i=1}^{9}\left(outletExposure_{i,r,w} * \sum_{d=-13}^{0} negativeParagraphs_{i,d}\right)}{\sum_{i=1}^{9}\left(outletExposure_{i,r,w} * \sum_{d=-13}^{0} positiveParagraphs_{i,d}\right) + \sum_{i=1}^{9}\left(outletExposure_{i,r,w} * \sum_{d=-13}^{0} negativeParagraphs_{i,d}\right)}.$$

By subtracting the negative paragraph exposure (based on the number of negative paragraphs in the last 14 days in each outlet, weighted by the number of days the respondent used each outlet) from the positive paragraph exposure, and dividing this by the sum of the two, we created a tone measure in which −1 implies that the respondent was exposed to only negative paragraphs (but independent of whether this was just 1 or 1,000), +1 implies only exposure to positive paragraphs, and 0 implies positive and negative paragraphs were equally present or both absent ($M_{\text{Wave1}} = -0.64$, $SD_{\text{Wave1}} = 0.43$; $M_{\text{Wave2}} = -0.71$, $SD_{\text{Wave2}} = 0.43$; $M_{\text{Wave3}} = -0.66$, $SD_{\text{Wave3}} = 0.44$; $M_{\text{Wave4}} = -0.56$, $SD_{\text{Wave4}} = 0.35$; $M_{\text{Wave5}} = -0.60$, $SD_{\text{Wave5}} = 0.35$; $M_{\text{Wave6}} = -0.55$, $SD_{\text{Wave6}} = 0.48$).

Perceived Effectiveness

The degree to which a respondent perceived the party as effective in achieving its goals was measured only in the third, fourth, and fifth waves. The measurement consisted of four items: (1) To which degree is the organization of 50Plus stable, according to you? (2) To what extent do you think 50Plus can get things done for its voters? (3) To which degree is 50Plus an efficient organization, according to you? (4) To what extent do you expect 50Plus to achieve its goals? The respondents answered on a scale from 0 (*not at all*) to 6 (*to a very high degree*). In each wave, the items loaded on one factor ($\text{eigenvalue}_{\text{Wave3}} = 3.11$; $\text{eigenvalue}_{\text{Wave4}} = 3.10$; $\text{eigenvalue}_{\text{Wave5}} = 3.33$) and formed a reliable scale (Cronbach's $\text{alpha}_{\text{Wave3}} = .90$; Cronbach's $\text{alpha}_{\text{Wave4}} = .90$; Cronbach's $\text{alpha}_{\text{Wave5}} = .93$). We calculated the perceived effectiveness scale by taking the average of the four items ($M_{\text{Wave3}} = 3.34$, $SD_{\text{Wave3}} = 1.24$; $M_{\text{Wave4}} = 3.44$, $SD_{\text{Wave4}} = 1.25$; $M_{\text{Wave5}} = 2.64$, $SD_{\text{Wave5}} = 1.32$).

Data Analysis

Our analysis consisted of three parts. First, to test the over-time main effects of volume of exposure and tone of exposure,[5] as well as the interaction between the two, on the propensity to vote, we made use of fixed-effects regression analysis, modeling the within-person change over all six waves rather than the between-persons variation, which is typical in observational studies. In doing so, individuals served as their own controls because each person was compared with him- or herself at an earlier point in time. As a result, fixed-effects regression controls for all time-invariant variables, whether measured or unmeasured, as if they had been included in the model, offering the most stringent causal test in nonexperimental settings (Allison, 2009). As this method of analysis requires at least two observations per respondent at different time points (to be able to assess change), and because we allowed the respondents to answer "don't know" on our propensity to vote for 50Plus question, the sample consisted of respondents giving a valid answer in at least two waves: *N* = 1,713, giving rise to 8,550 observations.

Second, we analyzed the mediation by perceived effectiveness of the effects of volume of exposure and tone of exposure, and their interaction, again using fixed-effect regression analysis. As perceived effectiveness was measured only in Waves 3, 4, and 5, we used the variation over these three waves with a sample size of *N* = 1,451, resulting in 3,890 observations. We tested the mediation by following the method of Baron and Kenny (1986), first assessing the total effect of exposure on the propensity to vote score without controlling for perceived effectiveness (c-path), second assessing the effect of exposure on the mediator perceived effectiveness (a-path), and finally assessing the effect of perceived effectiveness (b-path) and exposure (c′-path) on the propensity to vote score simultaneously. A mediation existed if the a-path and the b-path yielded significant effects[6] and if the effect of the c′-path was significantly smaller than that of the c-path.

Third, turning to the quasiexperimental part of the analysis, an event during the fourth wave was used as a quasiexperimental factor. With the high visibility of the event and the clear negative tone, we tested whether respondents who filled out the questionnaire after the event showed a significantly lower propensity to vote score compared with those who responded before the event took place. In this model, we controlled for the propensity to vote score from the previous wave so as to avoid selection bias. Adding perceived effectiveness and media exposure to the model allowed for testing a moderated mediation.

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[5] We modeled the effects of volume of exposure and tone of exposure separately and simultaneously. As both measures are based on the self-reported media exposure measure, one might expect problems with multicollinearity. The correlations between volume and tone of exposure were of moderate size (ranging between −.30 in Wave 4 and −.66 in Wave 6) and values of tolerance in the models were well within acceptable levels (minimum tolerance was .55).

[6] We used the Sobel test to evaluate the significance level of the mediated effect. The mediated effect was calculated as the product of the a-path and b-path. The standard error was calculated by $SE_{ab} = \sqrt{b^2 {SE_a}^2 + a^2 {SE_b}^2 + {SE_a}^2 {SE_b}^2}$ (see also Baron & Kenny, 1986).

Results

We start off with descriptive statistics of our news media content data. Figure 1 shows the visibility and tone of coverage of 50Plus and its politicians in all nine media outlets under study. Concerning visibility, note the clear increase during the party's deep crisis at the time Waves 4 and 5 were fielded. Regarding tone, across all outlets 50Plus was portrayed in a consistent negative way. The slightly less negative tone during Wave 4 was mainly due to its good showing at the 2014 European Parliamentary elections, the party crisis occurring only in the last part of that wave's fieldwork.

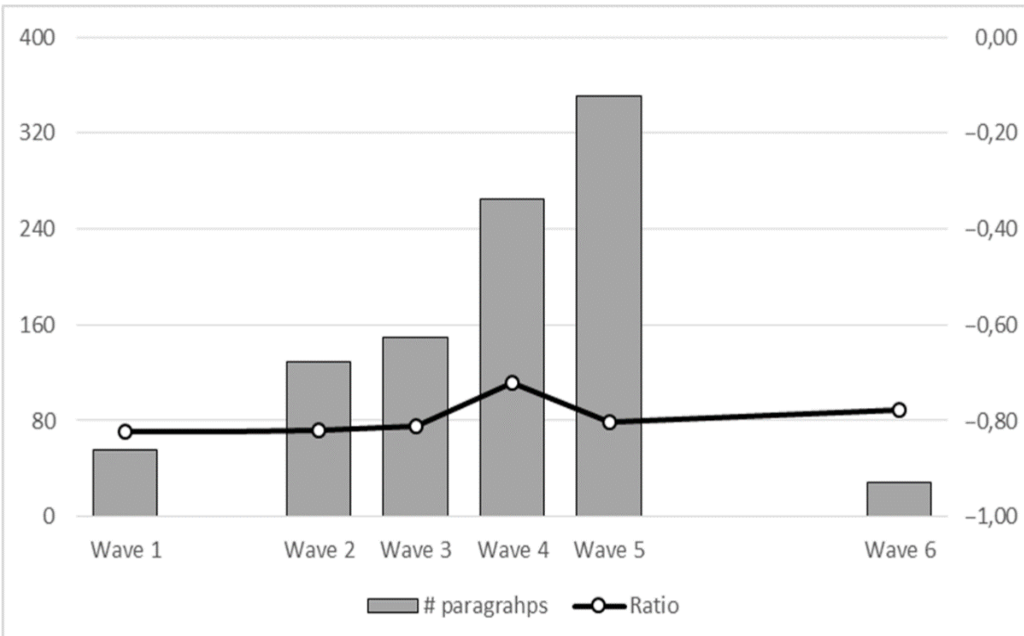

Figure 1. Visibility and tone of coverage of 50Plus at six time points in 2013–2016.

The results of our first set of fixed effects regression analyses can be seen in Table 1.

Table 1. Predicting Propensity to Vote for 50Plus.

Variable	Model 1	Model 2	Model 3	Model 4
Wave 2	0.09* (0.04)	0.09* (0.04)	0.09* (0.04)	0.09* (0.04)
Wave 3	−0.03 (0.05)	−0.03 (0.05)	−0.03 (0.05)	−0.02 (0.05)
Wave 4	0.00 (0.05)	0.02 (0.05)	0.02 (0.05)	0.01 (0.05)
Wave 5	−0.39*** (0.05)	−0.31*** (0.06)	−0.31*** (0.06)	−0.30*** (0.06)
Wave 6	−0.13* (0.05)	−0.13* (0.05)	−0.13* (0.05)	−0.13* (0.05)
Volume of exposure		−0.25* (0.13)	−0.25* (0.13)	−0.30* (0.13)
Tone of exposure			−0.00 (0.05)	0.03 (0.06)
Volume × Tone of Exposure				1.10* (0.52)
R^2	.01	.01	.01	.01
F	19.71	17.11	14.66	13.41
F change	19.71***	4.08*	0.01	4.59*
$N_{\text{respondents}}$	1,713	1,713	1,713	1,713
$N_{\text{observations}}$	8,550	8,550	8,550	8,550

Note. Entries are unstandardized fixed-effects regression coefficients with standard errors within parentheses. Significance of the *F* change is compared with the previous model.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. $^{+}p < .1$ (two-tailed).

Model 1 shows changes in propensity to vote for 50Plus compared with the first wave. Thus, we report a relative increase in Wave 2, a decrease in Wave 5, and increases again between Wave 5 and 6, although the level in Wave 6 did not reach that of Wave 1.[7]

In Model 2, we tested the fixed effects of volume of exposure (visibility). The negative coefficient implies that a within-subject increase in exposure leads to a within-subject decrease of propensity to vote for 50Plus ($b = -0.25$, $SE = 0.13$, $p = .043$). This does not bode well for Hypothesis 1, which claims that prominence increases vote propensity.

In Model 3, we added tone of exposure, which had no main effect ($b = -0.00$, $SE = 0.05$, $p = .941$). We thus found no support for Hypothesis 2. We did observe that, while controlling for the tone of exposure, the negative effect of the volume of exposure persisted.

In the next model, Model 4, we added the interaction between volume of exposure and tone of exposure. This interaction yielded a significant positive effect ($b = 1.10$, $SE = 0.52$, $p = .032$). This implies that the more negative the tone of exposure, the stronger the effect of volume of exposure, that is, the effect of exposure becomes more negative. As well, as the tone turns more positive, an increase in volume exposure implies an increase in propensity to vote for 50Plus. This is consistent with Hypotheses 3a and 3b, but to further examine the hypotheses, we plot the interaction in Figure 2. The solid line in the figure

[7] As the coefficients in Model 1 were based on merely the 8,550 observations that allow for comparison between waves, they do not perfectly reflect the differences of the means we reported in the Method section, as these were based on all available data.

illustrates the estimated marginal fixed effect of volume of exposure, depending on the value of the tone of exposure. As tone of exposure is negative, the marginal effect of volume of exposure is also negative (e.g., when tone is −0.5, the marginal effect of volume of exposure is *b* = −0.86, *SE* = 0.31, *p* = .005, 95% CI = [−1.46, −0.25]. And the more negative the tone of exposure, the more negative the marginal effect of volume of exposure is estimated. This supports Hypothesis 3b. However, the figure also shows that when tone of exposure turns more positive, the marginal effect of volume of exposure also turns positive, but fails to reach conventional levels of significance. For instance, a positive tone of exposure of 0.5 leads to a marginal effect of volume of exposure of *b* = 0.24, *SE* = 0.27, *p* = .349, 95% CI = [−0.27, 0.77]. And in Figure 2, across the positive values of tone, we observe that the 95% confidence interval always contains zero. Although the lack of significant marginal effects is not in accordance with Hypothesis 3a, the marginal effect is in the expected direction. And given the small numbers of respondents that are (on average) exposed to a positive tone, the lack of a significant result may be due to a lack of power at this end of the scale. Also, because most respondents were exposed to a negative tone regarding 50Plus and given our support for Hypothesis 3b, we can understand the negative effect of volume of exposure: If the tone is primarily negative, an increase in volume of exposure is likely to reduce the propensity to vote.

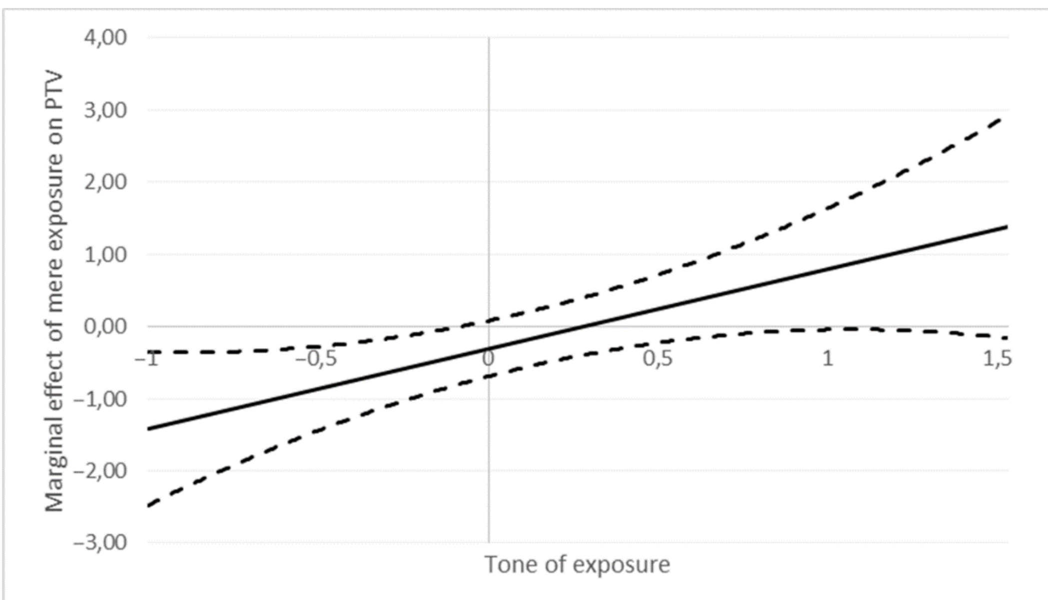

Figure 2. Marginal effect of volume of exposure on propensity to vote (PTV) for 50Plus for different values of tone of exposure. The dashed lines denote a 95% confidence interval.

Turning to the last hypothesis, Hypothesis 4, we added perceived effectiveness to the models. Because perceived effectiveness was measured only in Waves 3, 4, and 5, the following analyses also only apply to these three waves. We first note that both the main effect of tone of exposure (*b* = 0.09, *SE* = 0.10, *p* = .175) and the interaction between volume and tone of exposure (*b* = 0.20, *SE* = 0.66, *p* = .378) were not significant (we discuss the reason for not finding a significant interaction with only these three waves in the Discussion section). We thus tested the mediation hypothesis only with volume of exposure as the independent variable. Following the steps of Baron and Kenny (1986), we first observe a significant total effect of volume of exposure on the propensity to vote for 50Plus: $b = -0.27$, $SE = 0.13$, $p = .021$. Second, we observe a significant direct effect of volume of exposure on perceived effectiveness ($b = -0.35$, $SE = 0.08$, $p < .001$) and a significant direct effect of perceived effectiveness on the propensity to vote for 50Plus ($b = 0.36$, $SE = 0.03$, $p < .001$). With a significant indirect effect estimated at $b = -0.13$, (Sobel test: $SE = 0.03$, $p < .001$) and a remaining direct effect of volume of exposure on the propensity to vote for 50Plus of $b = -0.14$ ($SE = 0.13$, $p = .135$), we found partial mediation, which supports our Hypothesis 4. The results of this mediation analysis are summarized in Figure 3.

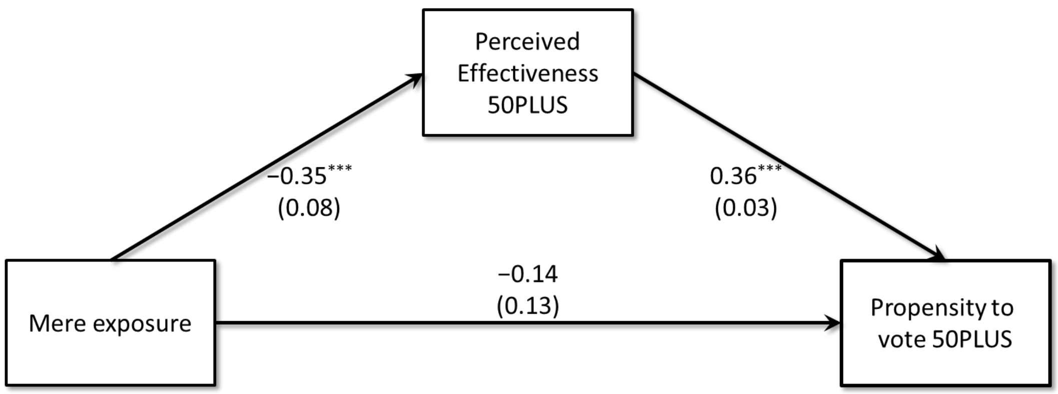

Figure 3. Model explaining propensity to vote from volume of exposure mediated by perceived effectiveness, based on observational data from Waves 3, 4, and 5. Entries are the unstandardized fixed-effects coefficients with standard errors within parentheses. The full models behind the graph are available from the authors. The total effect of volume of exposure on propensity to vote was estimated at b = −0.27, SE = 0.13, p = .021 (one-tailed). The indirect path was estimated at b = −0.13, and a Sobel test showed this was significant (SE = 0.03, p < .001). *p < .05. **p < .01. ***p < .001. +p < .1 (one-tailed).

We now turn to the quasiexperimental setting. We began by comparing the experimental group with the control group on their average scores of propensity to vote for 50Plus in Wave 3 as a randomization check. The group that later on filled out the questionnaire in Wave 4 before the crisis scored higher in Wave 3 ($M = 2.99$, $SD = 2.59$) than the group that filled out the questionnaire in Wave 4 after the crisis ($M = 2.69$, $SD = 2.52$), but this difference was not significant ($M_{diff} = 0.30$, $SE = 0.20$, $p = .131$). Comparing the groups in Wave 4, we see that the precrisis group scored a little higher compared with those in Wave 3 ($M = 3.12$, $SD = 2.64$), and the postcrisis group scored lower in Wave 4 compared with those in Wave 3 ($M = 2.19$, $SD = 2.23$); more importantly in Wave 4, the difference between the precrisis and postcrisis groups was significant ($M_{diff} = 0.94$, $SE = 0.17$, $p < .001$). This is supportive of the idea that the valence of a particular event influences the propensity to vote.

However, if we want to test whether this was indeed a media effect, we would expect the effect of the quasiexperimental treatment (i.e., whether the respondents filling in the questionnaire before and after the crisis differ) to be most pronounced among individuals who consume news. We thus tested whether the quasiexperimental test was moderated by individuals' self-reported exposure to television news (*b* = −0.03, *SE* = 0.02, *p* = .028), newspapers (*b* = −0.01, *SE* = 0.03, *p* = .334), and online news (*b* = 0.02, *SE* = 0.02, *p* = .127).[8] Only the moderation by television exposure reached a conventional level of statistical significance. The moderation was as expected, as the effect of the crisis was larger (more negative) when an individual was more likely to watch the news. With a remaining marginally significant conditional effect for individuals not watching the news (*b* = −0.41, *SE* = 0.28, *p* = .074), we cannot rule out the existence of an effect among those individuals who do not use media, which may of course be likely because of "manipulation contamination" through other sources such as interpersonal communication. These findings are in line with Hypothesis 3b that a certain volume of exposure is required for a negative valenced event regarding a political party to negatively affect the propensity to vote for that party.

The quasiexperimental setting also allowed us to test Hypothesis 4. We started with assessing the effect of the quasiexperimental conditions on the mediator, perceived effectiveness. Checking randomization again, we found no significant difference in perceived effectiveness in Wave 3 (M_{diff} = 0.07, *SE* = 0.09, *p* = .440) between the precrisis group (*M* = 3.31, *SD* = 1.25) and the postcrisis group (*M* = 3.39, *SD* = 1.29). In Wave 4, the postcrisis group (*M* = 3.11, *SD* = 1.29) scored lower than the precrisis group (*M* = 3.49, *SD* = 1.20), and this difference was significant (M_{diff} = 0.38, *SE* = 0.09, *p* < .001). Thus, we conclude that perceived effectiveness is negatively influenced by the crisis, just as propensity to vote is.

To test whether perceived effectiveness mediated the effect of the crisis on the propensity to vote, we ran a mediation analysis. This was an analysis similar to the one conducted above, still according to the method outlined in Baron and Kenny (1986). In Figure 4, we show the results of this mediation analysis and found a significant total effect of the quasiexperimental factor on propensity to vote (the c-path: *b* = −0.72, *SE* = 0.15, *p* < .001), a significant effect of the quasiexperimental factor on the mediator perceived effectiveness (the a-path: *b* = −0.64, *SE* = 0.08, *p* < .001), a significant effect of the mediator on the propensity to vote (the b-path: *b* = 0.51, *SE* = 0.05, *p* < .001), and a substantial decrease of the direct effect from the quasiexperimental factor on propensity to vote when controlling for the mediator (the c′-path: *b* = −0.39, *SE* = 0.14, *p* = .004). With the indirect effect estimated at *b* = −0.32 (*SE* = 0.05, *p* < .001), we found partial mediation, in line with Hypothesis 4.

[8] The day after the crisis, Ascension Day, no newspapers were issued. Given that the crisis started when newspapers had already been printed, newspapers reported about the crisis two days later. By then, most readers had probably already heard of the crisis through other means. This may explain the lack of a moderated effect in our analysis based on exposure to newspapers.

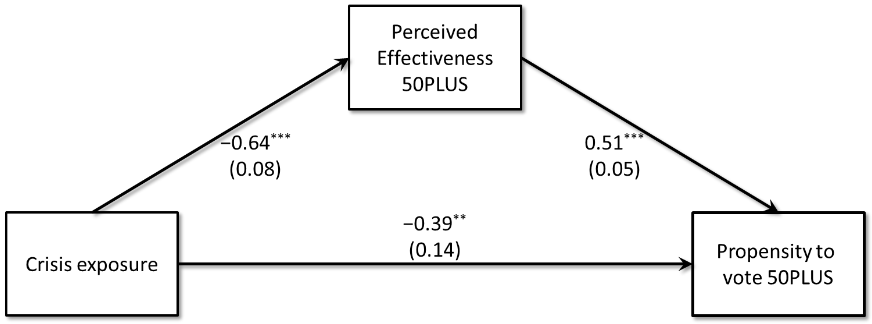

Figure 4. Model explaining propensity to vote from volume of exposure mediated by perceived effectiveness, based on quasiexperimental data from Wave 4. Entries are the unstandardized ordinary least squares regression coefficients with standard errors within parentheses. In the models leading to these results, we also controlled for the propensity to vote in the preceding wave to capture any differences between the two quasiexperimental groups. The total effect of volume of exposure on propensity to vote was estimated at **b** ***= −0.72,*** **SE** ***= 0.15,*** **p** ***< .001 (one-tailed). The indirect path was estimated at*** **b** ***= −0.32, and a Sobel test showed this was significant (*****SE** ***= 0.05,*** **p** ***< .001). ****p*** ***< .05. ******p** ***< .01. *******p** ***< .001.*** **+p** ***< .1 (one-tailed).***

Finally, we tested whether this was a media effect by analyzing whether the indirect path was moderated by exposure to news. Given the nonsignificant moderations by exposure to newspapers and online news, we focused again on exposure to television news. The results are summarized in Figure 5.

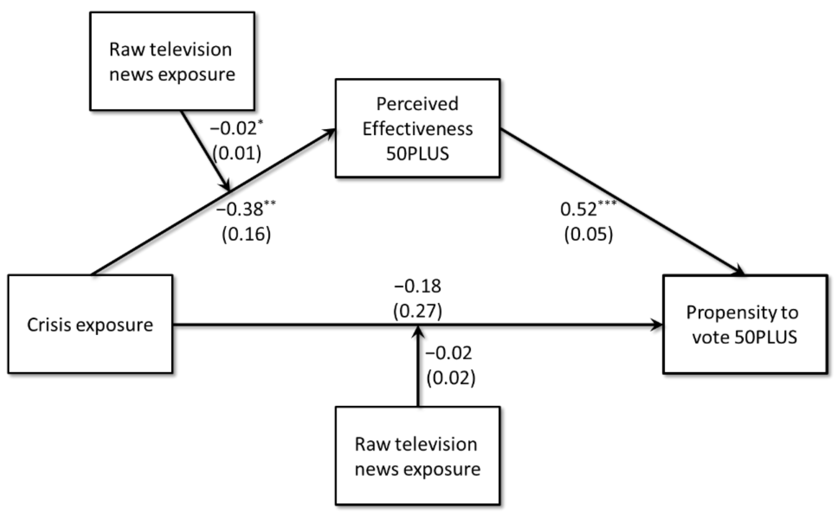

Figure 5. Model explaining propensity to vote from volume of exposure mediated by perceived effectiveness and moderated by television news exposure, based on quasiexperimental data from Wave 4. Entries are the unstandardized ordinary least squares regression coefficients with standard errors within parentheses. The coefficients shown in the mediation part are conditional effects when raw television news exposure is at zero (no exposure). For main effects, we refer to Figure 4. ****p ***< .05. ******p** ***< .01. *******p** ***< .001.*** **+p** ***< .1 (one-tailed).***

We found that the path from the quasiexperimental factor on the mediator was indeed moderated by television exposure (*b* = −0.02, *SE* = 0.01, *p* = .029). The negative coefficient of the interaction implies that the more individuals used television news (i.e., are likely to be exposed), the lower the perceived effectiveness was for the postcrisis group compared with the precrisis group (i.e., the larger the effect). However, just as for the main effect, we observed a significant conditional effect among individuals who did not consume television news (*b* = −0.38, *SE* = 0.16, *p* = .014). Thus, again we found that individuals who did not use television news were also affected, likely through other news sources such as personal communication. Finally, we noticed that the direct effect of the experimental condition on propensity to vote for 50Plus decreased and the interaction between the experimental condition and television exposure turned insignificant. This means that there was moderated mediation.

Discussion

In this article, we have touched on media portrayals of new parties. Much is still unknown about what aspects of new parties' images are important for their success or failure. We have addressed the question of whether a particular aspect, perceived effectiveness, mediates the effect of news media coverage of a new party on voters' propensity to vote for that party. We found that it partially does. In the process, we have corroborated earlier findings that visibility in news media coverage and tone of that coverage matter for a party's electoral performance in rather intuitive ways.

Apart from arguing and demonstrating that perceived effectiveness plays this major role in new party success, we have gone beyond the relevant literature in at least four other ways. First, we integrated existing political science concepts into a communication science model, which we applied to an electoral study. Second, we compiled and tested a scale of perceived effectiveness of a political party in voters' eyes, which proved to be reliable in this context. Third, we applied a novel theoretical model of media effects to electoral behavior. And fourth, we employed three parts of a study in a complementary way. Furthermore, the sixth wave showed us a (partial) recovery of the consequences of the party split and internal war after a year. This indicates that the effects we found were relatively short term. Only a few previous studies have estimated the duration of such effects. But although the effects may not be permanent, even short-term effects may be consequential if, for instance, a crisis emerges shortly before the elections.

As the results of each study pointed in the same direction on most points, this makes us confident about our findings. However, although we established that visibility matters for the electoral performance of new parties, the direction was opposite of what one would expect. A party would need a certain level of visibility because a nonvisible party does virtually not exist and would not attract any voters. This would imply a positive effect of visibility, whereas our analyses showed a negative coefficient. It turns out that it is not just visibility that drives the effect: The tone of the coverage is also important. This is illustrated by our interaction, for which visibility has a positive effect if the tone of the coverage is positive, but there is a negative effect if the tone is negative. The negative main effect of visibility was thus the result of a mainly negative tone toward the party. The lack of a significant interaction between visibility and tone in our three-wave design, we expect, was due to not only a mainly negative tone, but also to a high correlation between visibility and tone (the more visible the party in this period, the more negative the tone). These findings disavow the well-known saying that "any publicity is good publicity."

One could argue, however, that our findings do not necessarily constitute a media effect but rather an effect of real-life events. Indeed, a party fighting among itself is a real-world event, and knowledge of such an event would drive changes in both perceived effectiveness and the propensity to vote for that party. Yet, as Norris (2000) found that media effects are most likely when citizens rely on news media as their main source of information, and following Page and Shapiro (1992), most citizens do not experience political events first-hand and thus need to rely on the news media to learn about politics. Our findings in the longitudinal analyses show that visibility and tone matter but at the same time visibility and tone differ among news outlets, which means that it is not just events that cause shifts in perceptions, but also the way the media portray these events. This was corroborated in our experimental analysis, as the effect was moderated by media use.

Limitations of our study include studying just one party during one particular (albeit relatively long) time period. Furthermore, we cannot be entirely sure about the content of the news media beyond its tone. More specifically, the concept of "authoritativeness" used by Bos and colleagues (Bos & van der Brug, 2010; Bos et al., 2010, 2011)—and, to the extent applicable, "populism"—were not adequately measured. Future research should take relevant content characteristics into account.

Another limitation to our study is that in our analysis we implicitly controlled for all time-invariant variables, but not for attitudes that may change over time. Thus, we cannot rule out that the relations were spurious. But as explained by Wojcieszak and Azrout (2016), most variation in content-weighted self-reported media exposure measures comes from change in the content and not from changes in media consumption. We thus argue that other attitudes were not likely causal prior to weighted exposure measures.

Finally, one could argue that the effects and mechanisms we are interested in may not be unique to new parties. Indeed, an established party for which the perceived effectiveness is reduced is also likely to see its electoral performance decrease. And real-life events (be it internal struggles or perhaps successful or unsuccessful participation in government) are likely to influence both. Yet, important here is that established parties have established reputations. And although reputations may change, new information from the media needs to compete with existing beliefs. Contrary to established parties, new parties are still in the process of establishing a reputation. Thus, with citizens still learning about the new party, information from the media is much more likely to affect citizens' perceptions of the new party. We thus expect that this mechanism is especially important for new parties. Thus, to be successful, new parties need not only make sure they are seen, but also guard their reputation.

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Materializing Ethical Matters of Concern: Practicing Ethics in a Refugee Camp

FRÉDÉRIK MATTE[1]
University of Ottawa, Canada

NICOLAS BENCHERKI
TÉLUQ Montréal, Canada

This article explores the collective practices through which ethics is handled at the humanitarian aid organization Doctors Without Borders. As an international nongovernmental organization operating in 72 countries, many times facing extreme contexts and yet able to uphold its ethical standards, we consider that studying the practical achievement of ethics at Doctors Without Borders is an occasion to learn how workers themselves deal with it. Our analysis of ethnographic data suggests that the question of what is right or wrong is materialized through what we call *ethical matters of concern*. We focus on the communicative practices through which apparent individual ethical decisions are in fact collaborative in the sense that they imply people, principles, and other artifacts that substantiate organizational ethics in everyday work.

Keywords: matters of concern, ethics, materiality, communicative constitution of organizations, extreme contexts

> My role as a head of mission is to defend our position, well, to express it in order to defend it. And to do that, you have to insist by using all sorts of stratagems: phone calls, visits, and follow up. It takes lots of time. (Interview with a Doctors Without Frontiers worker, Dadaab refugee camp, Kenya)

Working for an international humanitarian aid organization is a rewarding but demanding experience. The extreme contexts in which some organizations operate add layers of complexity to organizing (Barton, Sutcliffe, Vogus, & DeWitt, 2015; Weick, 1993) and questions of what is right or wrong tend to be far from obvious (Hunt, 2008; Nilsson, Sjoberg, Kallenberg, & Larsson, 2011). Usual approaches prove to be inadequate, making humanitarian aid situations “extreme contexts” for

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Frédérik Matte: fmatt3@uottawa.ca
Nicolas Bencherki: nicolas.bencherki@teluq.ca
Date submitted: 2019–05–21

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organizational ethics (de Rond, 2012; Hällgren, Rouleau, & de Rond, 2017). The first author has participated in several emergency medical relief missions throughout the world and has directly witnessed how humanitarian workers carry out their work despite many challenges. One crucial aspect he has observed is that workers in such uncertain situations have to stand up for the values, standards, ideals, morals, and principles that propel their missions even as they appear contradictory at times (Gotowiec & Cantor-Graae, 2017).

With this article, we highlight how humanitarian workers can uphold what we call *ethical matters of concern* (EMCs). We coin this term to include all values, beliefs, standards, ideals, principles, or any moral preoccupations that guide humanitarian organizations and to which workers are attached. EMCs materialize in speech, text, body, or otherwise, as people jointly co-orient to them, assess them, and debate them. The materiality of EMCs is what allows them to resist more or less durably in the face of adversity when humanitarian workers must collaborate with people or organizations that do not share their ethical preoccupations.

With this in mind, we explore how humanitarian workers collectively materialize ethics by playing on the double meaning of *mattering*, and observe how it is dealt with by looking at how values, standards, ideals, morals, and principles are made to count in a situation by being materialized through discourse, writing, or embodied action (Cooren, 2016). We thus consider ethics as both a mediated and materialized phenomenon: It does not exist merely as an abstract notion, but through other things that materialize it and allow it to matter in each situation. The more these things materialize and matter, the more they "scale up" to constitute the organization (Cooren & Fairhurst, 2008). This materialization in speech, text, body, or otherwise is what allows ethical matters of concern to be attended to, negotiated, or confronted in practical situations. The mediated nature of ethics also means that apparently individual ethical decisions are in fact collaborative and interactional accomplishments that involve both human beings and the many things they deal with as part of their daily work and life.

To understand how organizational actors materialize ethical matters of concern and how these materializations relate to organizing, we turn our attention to the humanitarian aid organization Doctors Without Borders/Médecins Sans Frontières (MSF). We draw from data gathered during a longitudinal ethnographic study that spanned over 10 years from 2005 to 2015. We focus on a mission in Dadaab, Kenya,[2] one of the biggest refugee camps in the world, where upholding ethical and medical standards is a daily challenge when faced with scarce resources and safety concerns. This unique context offers a rich and powerful opportunity to look at how organizational members deal with the many contradictions that confront most organizations (Putnam, Fairhurst, & Banghart, 2016).

Indeed, MSF and its humanitarian workers constantly modulate their action to adjudicate between, on the one hand, strict medical ethics demanding high standards of care and, on the other hand, possibly competing ethical considerations such as neutrality with respect to ongoing conflicts, impartiality in caring for people irrespective of their allegiance, independence from government authorities, and, most

[2] http://www.unhcr.org/ke/dadaab-refugee-complex. According to the United Nation Refugee Agency, as of January 2018, 235,269 people were registered as refugees or asylum seekers in Dadaab.

important, openness to local customs that requires being mindful of possible postcolonial bias, including differing ideas about health care. As Redfield (2005) explains, "The sort of medical action pursued by MSF reveals ethical complications within this field of global crisis" (p. 329). As part of their everyday business of providing medical care, MSF workers are also discursively and practically handling EMCs and, in doing so, effectuating a configuration of opposing demands "one interaction at the time." By looking closely at the example of the 1999 Nobel Peace Prize recipient organization, we can learn from the vast experience of its humanitarian workers as they uphold principles in inherently unstable contexts that precipitate and magnify ethical dilemmas (Derrida, 1995).

Practicing Ethics in Humanitarian Aid: Toward a Communicative Perspective

As Seeger and Kuhn (2011) suggest, quoting Peter Singer (1986), "Most contemporary ethical dilemmas have organizational issues at their core" (p. 173). This means that ethics cannot be abstracted from the concrete and mundane situations in which collective action takes place. Against an idealistic and normative view of ethics, Clegg, Kornberger, and Rhodes (2007) contend that "ethics will be enacted in situations of ambiguity where dilemmas and problems will be dealt with without the comfort of consensus or certitude" (p. 109). Literature also recognizes that, in a time of value pluralism, there is a need to study how people reconcile the variety of stances that coexist (Dempsey, 2011). This calls for a pragmatist posture anchored in the concrete way different people deal with ethical decisions (ten Bos, 2002). Indeed, when confronted with the standards of others, one encounters conflicting ethical beliefs, as when physicians discursively confront their moral responsibilities by sharing stories of mistakes (Carmack, 2010). The question of what is right or wrong in a given situation or within an organizational setting is thus an open one, as alterity and difference are core characteristics of reality (Kenny & Fotaki, 2015) and prevent any before-the-fact decision on what ought to be (McMurray, Pullen, & Rhodes, 2011).

Ethics in Humanitarian Aid

The need to deal with ethics in each situation is even more salient in the extreme context of humanitarian aid organizations. They have to deal with ethical dilemmas exacerbated by scarcity of resources, extent of needs, and institutional constraints (Nilsson et al., 2011), as well as with the different standards that local medical staff and even patients may be accustomed to and that may challenge foreign humanitarian workers' professional identities (Hunt, 2008). In addition, social and political ambiguity, less defined roles and hierarchies, and the absence of usual support structures, combined with the need to improvise and push one's set of skills to the limits, contribute to ethical distress (Nilsson et al., 2011).

To reconcile their ethical expectations and the field's reality, humanitarian workers resort to at least four broad strategies: tolerating the situation, challenging it, revisiting their own beliefs, or bearing the burden of choices (Bell & Carens, 2004). Indeed, although efforts are being made to formulate new codes of conduct specifically for humanitarian contexts, they may be too rigid to be applicable to each local context (Black, 2003). Alternatively, some prescriptions, such as the advice to critically examine values, identify options, weigh on them, and then apply them (Clarinval & Biller-Andorno, 2014), are, in fact, too general to offer clear guidance.

Toward a Communicative Perspective to Ethics

Instead of attempting to formulate more or less practicable advice, it may be more fruitful to consider humanitarian encounters with varying ethical standards as communicative events. Indeed, "when we find ourselves shocked over what another considers important, we are face-to-face with differences in what matters, witnessing contrasting communications ethics" (Arnett & Arneson, 2016, p. xi). This means, as Cheney, May, and Munshi (2011) point out, that ethics operates at the interface of the particular and the universal, with communication mediating between them, thus allowing the mobilization of a constitutive approach to communication.

To suggest that ethics is (also) a material practice, we borrow from literature suggesting that communication constitutes organizations thanks to its material aspect (Cooren, 2016; Taylor & Van Every, 2000). The argument that organizations are constituted through communication and interaction is indeed increasingly familiar among communication scholars (see Boivin, Brummans, & Barker, 2017). In this line of thinking, communication is never abstract: It takes the form of texts and documents (Brummans, 2007), computer presentation slides (Bourgoin & Muniesa, 2016; Schoeneborn, 2013), or specific utterances in a given tongue (Bencherki, Matte, & Pelletier, 2016). As people justify their behavior or opinion as aligning with rules, a code of conduct, or some imperative, they are therefore also organizing different material entities, including their bodies, into a specific collective ordering.

In other words, practice is the hybridization of discursive, embodied, and material constituents of organizing to constitute enduring organizational configurations (Ashcraft, Kuhn, & Cooren, 2009; Pullen & Rhodes, 2015; Putnam, 2015). In the same way, the study of how organizational actors manage EMCs should not be limited to analyzing conversations, but also extended to material artifacts and other situated actions. Materialization includes bodies, as in the example of Sørensen and Villadsen (2015), who show that ethics is also incarnate in managers' bodies. Whereas artifacts can impose ethics on human beings (Verbeek, 2006) and new technology demands heightened ethical precaution (Sandvig, Hamilton, Karahalios, & Langbort, 2016), arguably the material inscription of ethics may also relieve people from the responsibility of making difficult choices. It may do so by attributing the daunting task to the organization and its nonhuman representatives, as when a measuring stick determines, from their height, which children may receive the help of a nutrition center (Cooren & Matte, 2010). Therefore, the practices of ethics and those of organizing may not be distinct.

As people invoke principles or values and lend them their voice and their bodies, they also offer them a substance; that is, they materialize them (Cooren, Fairhurst, & Huët, 2012). Reciprocally, as they point to documents or measuring instruments, for instance, they position these as substantiating their opinion or decision. By empirically observing the communicative achievement of this reciprocal sharing of agency, including the negotiations or confrontations it supposes, we can therefore observe how people position themselves as animated by the EMCs they materialize. In that sense, studying how ethics is being materialized consists of observing the way people communicatively deal with matters of concern.

In short, through the notion of EMCs, we suggest that the power of an ethical principle, ideal, or standard does not lie in its intrinsic characteristics, but rather in the tangible work deployed by those who believe in it to materialize it and make it relevant and active in each situation (Arnett & Arneson, 2016; Maras, 2007; Slim, 2015). Ethics is thus a coconstructed social achievement that at once takes place in each local situation in which questions of what is right or wrong surface and scale up as conversations and texts are woven together.

Method: Being Embedded With MSF

Our analysis of how MSF workers practice ethics consists of observing how people position themselves as being animated by the ethical values or standards they materialize. MSF is "an international, independent medical organization that provides medical assistance to people affected by conflicts, epidemics, disasters, or exclusion from healthcare" and that "observes neutrality and impartiality in the name of universal medical ethics and the right to humanitarian assistance" (Doctors Without Borders, 2019, para. 1). Around one third of MSF's projects are devoted to delivering assistance to people living in war and armed conflict areas such as South Sudan, the Central African Republic, Iraq, and the Democratic Republic of Congo, among many others (MSF website, 2019). The organization operates 450 missions in 72 countries with approximately 8,000 health professionals, logistics specialists, and administrative staff assisted by more than 37,900 locally hired staff members. In 2017, the organization carried out more than 10,648,300 outpatient consultations, including 2,520,600 malaria cases and the vaccination of 2,095,000 people against measles (MSF website, 2019). These numbers illustrate the ability of this humanitarian organization to get the required resources out in the field while also upholding its ethical and medical principles and standards.

From 2005 to 2015, the first author was able to complete a series of fieldworks, both as a volunteer and as a researcher, which allowed him to observe MSF workers. He participated in activities during several missions around the world, in the Democratic Republic of Congo, Djibouti, Haiti, Jordan, Kenya, Mozambique, Niger, South Sudan, Sri Lanka, and Swaziland. He followed health workers in charge of missions in their daily (inter)actions, trying to describe "what is happening here" (Snow, Morrill, & Anderson, 2003). This longitudinal research project loosely followed an "embedded ethnographic" approach (Atkinson, 2015) as it implied an active presence from the first author in the field.

More specifically, the first author collected data by using a video-shadowing method, which consists of following someone, a project, or a group of people, and recording their activities with a video camera (Meunier & Vásquez, 2008). The use of video shadowing allowed him to capture "natural" conversations, but was also an opportunity to keep a record of physical actions and the use of tools, documents, and other artifacts. If a meeting appeared contentious over a particular (ethical) issue, we were therefore able to consider not only what people said, but also what they did, what they were looking at, or what tools they used. The use of video in ethnography has been amply discussed in the literature (see Hassard, Burns, Hyde, & Burns, 2017; Wilhoit, 2017).

Concretely, the first author attended MSF weekly operational meetings, as well as meetings of the logistics and medical departments or with partners and collaborators. He also followed nurses, patients, doctors, and logisticians in their daily activities. Each of these persons signed a written consent form. He orally informed any other patients, family members, and unanticipated individuals about the research, and recorded their verbal consent on the camera. The first author's institutional review board approved this procedure. Because the first author spent considerable time in the field, many workers, but also some patients and their families, became acquainted with him and his research project. Once each fieldwork was completed, the first author transcribed his recordings, which totaled approximately 70 hours of footage. He also wrote 300 pages of field notes, took more than 250 photographs, and collected various MSF documents. He held numerous data analysis sessions with colleagues, including the second author. These sessions helped us understand how MSF workers did their work and what challenges they faced.

For this study, some of these sessions allowed us to identify, within the "raw" data recorded during fieldwork, a few episodes—scenes, moments, or situations—in which ethical values, principles, standards, or guidelines were talked about, negotiated, and sometimes questioned. Specifically, for the Dadaab fieldwork, we ended up with 15 hours of video data and approximately 30 pages of ethnographic notes. Focusing on moments when we felt that some form of dilemma was playing out, we attentively reviewed the data, looking for any implicit or explicit reference to medical imperatives, protocols, or values related to ideals such as neutrality or impartiality. We were particularly attentive for moments when we could witness a collective recognition that ethical issues were at stake, and when standards of care were being defended against alternative possibilities. In other words, each time, something else could have happened in regard to ethical decision making. Once these segments of data were identified, we transcribed in more detail these "key" moments or situations, loosely following Jefferson's (2004) transcription convention. In analyzing theses data, we noted all potential ethical matters of concerns that MSF representatives and collaborators materialized, discursively or otherwise.

From these data, we selected two specific vignettes on the basis of their representative characters with respect to what usually happens for health care workers on MSF missions around the world, that is, the mundane occurrences when interactions are allowed to stand for (and negotiate) what counts toward ethical matters. The first consists of a meeting between a physician and the local staff she works with. The second exemplifies the work of a physician with patients and their families. In each case, the physicians made assessments and dealt with various ethical stances. Instead of including more data or coding for recurring themes across all of it, we opted for an in-depth examination that gives us the necessary space to unfold a detailed interactional analysis and show its usefulness when it comes to studying how people deal with ethical matters, in agreement with what the first author witnessed over the years. Indeed, he participated in many meetings and medical rounds in which MSF staff discussed apparently uneventful issues, such as the importance of eating together or the inclusion of family members in treatment decisions. These questions are also important in the two vignettes we selected, and it turns out they are crucial for the organization's operations as they are culturally central in Kenya (Holtzman, 2007; Maina, 2017).

As communication scholars, we focused on language and discourse, but also on bodies and materiality as we looked for their participation in agency, action, and relations. More specifically, we followed the principles of interaction analysis (Cooren, 2007) to analyze the data. In broad agreement with ethnomethodology (Garfinkel, 1967), we consider that what people do during each turn of talk or move in the interaction is relevant to better understand how social and organizational phenomena, including membership and authority, are being shaped and "brought into being" by actors themselves

(Bencherki, Matte, & Cooren, 2019; Bencherki & Snack, 2016). The originality of our approach consists of considering that action is always hybrid and therefore looking for the way people attribute what they say or do to matters that they stage as motivating or animating them.

Analysis: Materializing Ethical Matters of Concern

In the next analytical vignettes, we highlight two key situations that exemplify many similar ones at MSF, in which ethical matters appeared particularity salient and became of concern for the organizational actors involved. In the first one, we witness an MSF physician trying to reconcile her belief in medical standards, which demand that a health care professional remain with patients even during lunchtime, with a democratic decision-making process that requires her to ask local staff for their opinion on this question. Indeed, both medicals standards and democratic decision making represent core values at MSF, although they are not always easy to conciliate (Ahmad, Smith, & Slim, 2018). In the second one, we follow another physician who again has to negotiate between her conviction in the necessity of a feeding tube to ensure a young patient's survival and the need to respect the request of a family member who wishes to feed the patient herself and to take out the tube that is causing discomfort to her niece. This apparent willingness to adapt to local manners without compromising medical needs represents a constant preoccupation at MSF, albeit not without its limitations (Redfield, 2013).

Medical Ethics and Participatory Decision Making

This morning in Dadaab (Kenya), a refugee camp of approximately 450,000 people, 50 miles from the Somalia border, the heat has already shrouded the MSF hospital on the outskirts of the camp. Before workers begin their respective shifts, a meeting is taking place between Dr. Smith and the national medical staff (hired locally by MSF) mainly composed of Kenyans of Somali descent. Dr. Smith is a female pediatrician who has just arrived in Dadaab. Everybody is seated at a table, as Dr. Smith, who is chairing the meeting, begins to talk. She wants to discuss and remedy a situation that is problematic for her and for her vision of "best" medical practice (see Jefferson, 2004, for a glossary of transcript symbols):

0	Dr. Smith	Hum, right. Couple of things. One is that, hum, we need to (0.5) assign somebody hum (0.5) who (.) has lunch at a different time. Becau::se (1) it's a bit of a problem if everybody leaves the hospital at the same time and then there is nobody here to cover (.) you know (.) the emergency department or something on the wards. So:: (0.5) if nobody has a better suggestion (.) shall we try for now the person who's covering the emergency clinic goes to lunch a bit later? O::r, what do you think? Or the person who's doing the outpatient clinic stays in until it's finish and covered? What does everybody think? ((Looks around her for a response)) (5)
1	Dr. Smith	Hum? (3)
2	Dr. Smith	ok if=
3	Clinical officer	=the person doing emergency

4 Dr. Smith		the person doing emergency, yeah it makes sense. Yeah. And and we'd have to hum (2) radio. You know let let somebody knows to keep you some lunch or something like that but. I think that's:: (.) probably a good idea. Yep?
5	Clinical officer	the person who goes for lunch, has to start one hour less=
6	Dr. Smith	=yeah
7	Clinical officer	then he goes for lunch at two
8	Dr. Smith	=yeah
9	Clinical officer	and he comes back. He goes for lunch and he come back at three
0	Dr. Smith	Yeah. Yeah
11	Clinical officer	(inaudible)
12	Dr. Smith	Hum (.) yes (3)
13	Dr. Smith	Okay and if if it seems hum cause I know that we tend to put the same people kind of in this ward, this ward, this ward ((indicating different places with her hand)). So, if it seems that it's the same person every day (.) having a late lunch and you don't like it, plea::se say and we'll do a we'll do a rotate. Okay?

Dr. Smith begins her intervention by voicing what she thinks everyone needs to do: "One is th::at, hum, we need to (0.5) assign somebody hum (0.5) who has lunch at a different time" (Lines 1–2). Although she is the one who is speaking, she is explicitly positioning herself as speaking for the medical staff (the "we" in question) and what they need to do, thus materializing the collective and attributing to it the "need" to do something. She then explains why this new assignment should take place, following a prolonged "because" follow by a long one-second pause that seems to indicate that she had not thought of providing a reason before that moment: As she says in Lines 3–4, "Becau::se (1.0) it's a bit of a problem if everybody leaves the hospital at the same time and then there is nobody here to cover (.) you know (.) the emergency department or something on the wards." By voicing this concern in this particular way—for instance, by stressing the *everybody*—Dr. Smith materializes what counts for her and what she thinks is right for the situation, that is, the medical imperative of always having someone present for patients, even at lunchtime.

Having presented what they all need to do and having defined the problem that motivates this action, Dr. Smith proposes, after a brief pause, how the new system should be tried out. Note that her proposal is presented as a question ("Shall we try for now the person who's covering the emergency clinic goes to lunch a bit later?" Lines 6–8), quickly preceded by the implication that "nobody has a better suggestion" (Line 5). This passage is interesting because Dr. Smith invokes her conception of a patient's care (first by providing a solution, then defining the problem it answers to) before "inviting" input from the staff. So, whereas the first part of Dr. Smith's intervention (Lines 1–5) is marked by some assertiveness about what needs to be done, the second part uses a more interrogative form, thus weakening her invitation to provide input (especially Lines 8–10).

The concern that transpires from Dr. Smith's intervention is the apparent contradiction between two ethical matters: On the one hand, she positions herself as being animated by the necessity to have people monitor patients without interruption, an imperative that corresponds with MSF's medical protocol (and, probably, that of most Western health organizations). On the other hand, she also appears to be animated by the principle of collaborative decision making, a principle that the organization publicly puts forward as a core value (Fox, 2014; MSF website, 2019). Although the protocol is, by definition, nonnegotiable, the principle of participatory decision making implies a form of openness that contradicts it. The manner in which she sequentially utters her apparent concern for a participatory decision-making process—after having made the decision herself, in fact—materializes the fact that she seems to prioritize MSF's medical imperative of presence for patients at all times over genuine participation.

It comes as no surprise, then, that her invitation to contribute is first met by silence on the part of the national staff (see the five-second silence at Line 11, and the three-second silence at Line 13), which is finally broken by the local clinical officer. The latter reacts by simply saying, "The person doing emergency" (Line 15), which can be interpreted to confirm his understanding of Dr. Smith's proposal (i.e., that it is this person—the person doing emergency—who stays in the clinic while the others are out for lunch). Interestingly, Dr. Smith responds by implicitly identifying what the clinical officer just said as being an original contribution ("The person doing emergency, yep it makes sense. Yep"; Line 16), as if she wanted to cast what is happening as a form of participation. The rest of the episode shows Dr. Smith reacting to her own suggestion, while briefly asking for confirmation (Lines 16–19). As for the clinical officer, his series of statements confirm that he is trying to understand precisely what Dr. Smith is proposing by repeatedly translating what this means to them (Lines 20–27). Arguably, the way this interaction evolves seems miles away from the collaborative mode Dr. Smith is trying to establish.

This excerpt shows the concern between what animates the two parties: Dr. Smith is moved by a desire to improve the way things are done—a strong ethics of care—while trying to create a collaborative atmosphere and a more democratic decision-making process. However, the way she formulates those two contradicting principles—by stating a course of action first, hesitantly defining a problem then, and finally awkwardly asking for input when it is too late—materializes a clear priority for medical standards and the apparently nonnegotiable character of the MSF protocol. We can only conjecture the national staff members' perspective, as they do not fully participate in the exchange, and their silence may appear from our viewpoint as a form of deference to the physician's authority, a situation the first author witnessed frequently over the years. More so and given the fact that, as we learned from our experience there, eating together as a group is an important tradition, and therefore agreeing so easily to single out a person who eats alone appears suspicious. Of course, Dr. Smith is White and has a marked British accent, which materializes a clear socioeconomic privilege, as well as an obvious colonial stake, that locals cannot ignore (Shevchenko & Fox, 2008). Also, we are in Dadaab, one of the most dangerous regions of the world, where the notion of always having at least one medical staff member present with the patients may seem a futile matter given the surrounding chaos. Relatedly, in this region, and as we see next, parents traditionally play the role of caregivers and remain at the patient's bedside, a presence that materializes de facto the ethics of care everyone seems to be looking for, albeit in a different matter.

A Medical Plastic Tube

We follow another European physician, Dr. Lane, who is heading toward a young girl's bed. On the way, she explains how they had to intubate the juvenile patient to make sure that she receives enough liquid for her to survive. But once we arrive at the girl's bed—and to Dr. Lane's surprise—the little patient does not have the tube inserted into her nostril. With the help of a national medical staff member, a clinical officer who also acts as a translator, Dr. Lane asks the girl's aunt, who is at her bedside, why the feeding tube has been taken out. All the while, she is examining the little patient, as shown in Figure 1. The aunt replies that it was not comfortable for the girl and that, anyway, she is there herself to give the girl water and food if necessary. This apparent discomfort highlights the tube's ambiguity with respect to two ethical imperatives: the girl's immediate well-being and her long-term health. Reconciling both poses an ethical dilemma in the sense that they can both be sound medical objectives but cannot be pursued at once as far as the tube is concerned.

During the conversation, Dr. Lane politely acknowledges the aunt's answer, but insists that if the tube is not reinstalled, the girl will probably not survive. The aunt does not understand Dr. Lane's prognosis and repeats that she is at the girl's bedside all the time. What logic is there to inflict such discomfort to her niece? Dr. Lane explains her point once again, which the aunt seems to understand as casting doubt on her sincerity in caring for her niece. At that point, Dr. Lane turns toward the clinical officer to explain again that without the tube, the girl will die, as she needs constant feeding and is too weak to ask for food or even process it if it is given to her orally.

The clinical officer, initially acting only as a translator for Dr. Lane, then adds his own voice to the conversation about the medical necessity for the plastic tube. We do not understand right away what is said between him and the aunt as the conversation occurs in Somali, but the clinical officer's tone is clearly assertive, and his body language appears to be more authoritative this time around. Later, he confirms to the researcher that he had strongly reiterated the consequences of not having the tube to save the girl's life. With this combination of various materializations (Dr. Lane's physical examination, her demand combined with the clinical officer's stern request, the tube's presence that stands in for medical procedure, etc.), the aunt accepts letting Dr. Lane put the tube back in the girl's nostril.

As we can see, Dr. Lane and the aunt do not agree on what the feeding tube means with respect to the little patient. For Dr. Lane, the girl's survival is the sole goal to pursue at this stage, and she cannot compromise with what she feels is rational medical practice. For her, the tube is instrumental to the girl's survival. This is apparent in Dr. Lane's insistence that the tube remain in place despite the girl's discomfort and the aunt's lack of consent. Dr. Lane appears so zealous in pursuing that goal that she remains mostly deaf to the aunt's alternative moral position: that she is family, and that as such she will provide everything the girl needs, will not let her die, and wants to make sure she is comfortable. Indeed, for the aunt, the tube materializes as distrust in her sincerity and a mechanical replacement for the efforts she would be putting in feeding her niece. How—the aunt seems to ask as she repeatedly reminds everyone that she is there constantly to feed her niece—could an intrusive tube be any better than the love and care of an aunt? The tube, in a sense, "robs" her of her identity as a family member and her role as a caregiver that she is resolute to play. For Dr. Lane, and this is also what the clinical officer explains to the aunt, the tube is not an end to itself but rather the materialization of her desire to ensure that the little girl's survival is a goal the doctor and the aunt certainly share.

Figure 1. Dr. Lane, with the help of the clinical officer, putting the tube back in the little patient's nostril as her aunt comforts her. (Photograph modified to preserve anonymity.)

We see that Dr. Lane is faced with ethical matters that are posed by the tube's materiality (i.e., the fact that it both feeds and causes discomfort), either applying rational procedures to ensure the patient's survival, or respecting the family's traditional role and concern for their child's immediate comfort. In fact, however, she has already chosen a side. Had she agreed to consider the aunt's point of view, she would have betrayed the principles that guide MSF and her own identity as a physician. To the possible detriment of more considerate bedside manners, Dr. Lane and the clinical officer are reproducing MSF's ethical standards by insisting adamantly that the tube be reinserted, an insistence that also materializes the hierarchy between saving the patient's life through proven scientific means and being accommodating of local customs and issues of comfort. In this case, as in the previous one, an apparent ethical dilemma was decided on as EMCs were materialized through practice.

Materializing Ethics Through Practice

The presented vignettes show that ethical talk and action are not necessarily a special instance: It happens in ordinary, everyday work. It is through the same practices that people constitute their organization and go about their business—for instance, deciding how to coordinate lunch and who oversees feeding patients—and through which they make present and relevant ethical matters of concern. This is done in two ways: first, in multiplying the materializations of those EMCs, and second in presenting these materializations in a particular sequence. Indeed, Dr. Smith and the staff are deciding whether someone should stay with patients over lunch, but this decision is made not only in what is said, but also in how it is said. Through the sequential unfolding of the conversation, some EMCs are prioritized over others. Similarly, the second case reveals how MSF's ethical standards concerning the nutrition of patients is concretely made relevant in a local situation through a plastic tube and the joint request of two health care professionals. Again, these materializations position some EMCs above other possibly legitimate concerns, such as family consent or local customs, to the point that the physician may appear brusque in her attempt to impose her solution.

Ethical conversations, therefore, do not only debate the merits of keeping someone by a patient's side during lunchtime or the process of intubation. Materialization at times "causes" the ethical situation, as when the feeding tube both allows the little patient to survive but also causes her discomfort, thus leading the aunt and the physician to offer alternative ways of dealing with the tube. Most often, however, materialization allows confronting and configuring matters of concern, as when Dr. Smith lays out a "solution" before defining the problem and consulting her colleagues. Materializing ethical stances means that workers do not have to manipulate abstract concepts—for instance, is patient safety more important than employee participation?—but rather tend to their immediate situation: Should I ask them their opinion? Should I put the tube back? Principles and values (and contradictory ones) are made present and active in the situation as they are invoked through the many materialities of the here-and-now interaction. In other words, ethics is not reducible to intentional and rational dialogue among men and women (Arnett, 2016; Habermas, 1984), but also brings together a heterogeneous assemblage through which ethics passes, in the same way as it passes through human beings (Cooren, 2016; Latour, 2010).

Discussion

Current literature recognizes that humanitarian aid organizations and their members are strongly motivated by ethical principles (Rothschild & Milofsky, 2006) and that those preoccupations are on trial when confronted with day-to-day work in the extreme contexts in which they operate (Bell & Carens, 2004). Compromises must be made that are often felt as corrupting the principles that motivate humanitarian workers' engagement (Feldman, 2007). Rare resources, political ambiguity, and variable local ethical standards challenge foreign humanitarian workers' principles and their professional identities (Nilsson et al., 2011). However, besides broadly defined strategies to cope with dilemmas or suggestions for codes of ethics (Bell & Carens, 2004; Black, 2003; Clarinval & Biller-Andorno, 2014), few attempts have been made to concretely understand how workers practically handle ethics in the field. This study shows that when attention is turned to what humanitarian workers concretely do to deal with ethical situations, they can in fact offer valuable lessons to researchers and to workers in other contexts. In particular, three important contributions can be spelled out in terms of adopting an ethnographic approach, considering ethics as materialization, and on the relationship between individual and organizational ethics.

Our first contribution is methodological. The empirical material of much current research on ethics typically consists of after-the-fact interviews that preclude on-site observation of how people tangibly deal with ethics. We adopted, instead, an ethnographic approach to study an organizational setting with which the first author was familiar (Alvesson, 2009; Anteby, 2013; Eriksson, 2010). By choosing such an approach to study humanitarian work, we were able to access ethical concerns as they presented themselves in humanitarian workers' daily life. We were therefore able to observe how they routinely dealt with those concerns, thus offering a window to the practices and processes through which people concretely handle ethically sensitive situations, rather than deductively prescribe lines of conduct that are abstracted from any real-life context or having people reflect after-the-fact on long-past situations. Our study shows that it is possible to see ethics at work while it unfolds in local situations in which it is an issue to members. We can thus avoid assuming that we, as Western academics, are on some moral high ground from which we can offer guiding principles that should be relevant to members. In this sense, to the field's usual normative attitude, we stress the possibility and fruitfulness of an analytical perspective to the study of ethics.

Our second contribution is that ethics proceeds from the multiplication and sequence of materializations. It was already suggested that the material dimension of artifacts imposes ethical choices on people (Verbeek, 2006). Our findings suggest that materiality and human behavior do not contradict each other, but rather that materiality participates in ethical decision making along with people. In this sense, we concur with current research on the role of materiality in providing endurance to organizational practice and in constituting organizations (Ashcraft et al., 2009; Cooren et al., 2012). Our ethnographic data show how organizational ethical standards are materialized through mundane conversations and through objects and bodies. Different ethical stances thus correspond to practical engagement with different material elements of the current situation, from people to objects to conversation structure.

Relatedly, the analysis of our ethnographic data also reveals how the "plenum of agencies" (Cooren, 2006)—the intertwining of human and nonhuman actants—that make up organizational reality participates in defining ethical standards by materializing them. Of course, many contextual elements may not be directly observable in the interactions we study, such as colonial history. However, we show that we can already learn a lot from what we can actually observe. Indeed, if we list the different elements that help MSF enact its ethics in each local situation, we find that people, their discourse, but also silence, an uncomfortable plastic tube, translators, a loving aunt, agreements reached at prior meetings, all contribute both to making MSF present here and now in a particular way (what has been called "presentification"; see Benoit-Barné & Cooren, 2009) and to upholding its ethical standards far away from the Western context from which many of these standards emerged in the first place.

This leads us to the third contribution, which is that thinking of ethics in terms of its many materializations also elucidates the relationship between individual and organizational ethics. Indeed, it is not enough to assume that the individual ethical principles of the majority of members correspond to organizational ethics, not the least because who is a member or not may be ambiguous, especially in volunteer-based organizations. The process of "scaling up" must be observed in its own right (Cooren & Fairhurst, 2008). It is through material practices that decisions, procedures, routines, and other organizing practices are moved through time and space to become "organizational," for instance, as people refer to minutes (Cooren, 2004), share their PowerPoint documents with colleagues (Schoeneborn, 2013), or work together using a blackboard (Cooren & Bencherki, 2010). It is therefore through material artifacts that matters of concern of all kinds can be moved from individuals to their organization. However, even within one single setting, the multiplication of materializations that substantiate the same position may end up being authoritative in the situation and therefore suggest a course of action that is not reducible to the preference of any single individual. In the same way, Dr. Lane's preference for keeping the feeding tube is, precisely, not only individual but also "organizational" because of the clinical officer's intervention, because it is expressed as part of a medical examination, as well as because the tube itself, in the context of Dadaab, is an MSF technology. In other words, in each case, looking at the materializations of ethics reveals that ethical decisions are collective performances, and not merely cognitive or disincarnate reasoning that takes place within a single person's brain, heart, or spirituality.

Conclusion

Humanitarian aid organizations are in the business of negotiating ethical matters daily. Whereas much writing about ethics continues to consider the notion as a philosopher's problem, and mostly adopts a normative attitude, our analysis of ethnographic data shows that, in their own way, workers routinely balance principles, values, cultural norms, and situational contingencies against each other. They do not do so by mulling over concepts or applying categorical imperatives, but by orienting to practical problems and mobilizing the resources available to them. MSF positions the patient's health as its main concern (Brauman, 2009), but other EMCs regularly put this commitment to test because what is right or wrong is far from obvious. What our ethnographic data show is that MSF's principles, for the most part, do prevail in the end, even though the organization is active in multiple countries and faces cultural, linguistic, and other practical challenges in extreme contexts such as wars and health emergencies. The strength of an ethical principle, however, does not lie in its intrinsic features, but rather in the concrete efforts deployed by those who believe in it to materialize it and make it relevant and active in each situation.

As is the case in many organizations, MSF's values and mission must be defended every single day. They are questioned by government officials and other partners, but also negotiated among workers and patients themselves. Defending them implies a constant process of materialization of the values, principles, and norms of action that MSF cultivates. The kind of detailed analysis we have offered helps us better understand how MSF can uphold the standards that make it praiseworthy while dealing with the contingencies of emergency relief missions. It may also help us understand the organization's capacity for intervention in spite of the extreme contexts and hard choices it is faced with. In that sense, MSF's practices may serve an extreme example, or a magnifying glass, for other kinds of organizations operating in a variety of settings but nonetheless facing similar ethical matters of concern.

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Parliament Against Government and Industry: How Switzerland Decided to Implement Net Neutrality Against All Odds

NATASCHA JUST
University of Zurich, Switzerland

MANUEL PUPPIS
University of Fribourg, Switzerland

This article investigates the net neutrality policy-making process in Switzerland in the past decade, from first attempts to regulate net neutrality to the implementation of regulation in 2019. Based on a qualitative content analysis, the study assesses the arguments employed by various policy-making actors to advocate or prevent particular governance solutions. Results of the empirical analysis show that early attempts to regulate net neutrality failed, but discussions about its handling were continued during the revision of the Telecommunications Act. Though the government was ultimately in favor of including only transparency requirements in law, parliament stood up to government and industry and proposed a net neutrality regulation that is inspired by EU legislation.

Keywords: net neutrality, policy-making process, qualitative content analysis, small states, Switzerland

Since its first mention in research in the early 2000s (Wu, 2003; Yoo, 2004), net neutrality has become a policy priority, accompanied by enormous and—for a communications policy issue—almost unprecedented public attention. Research on net neutrality has thus far focused mostly on economic and legal aspects as well as on developments in the U.S. and the EU, while smaller countries' policies and policy-making processes have received scant attention. Similarly, research indicates that debates have mostly revolved around the affirmation or negation of statutory regulation without responding much to calls for evidence-based policymaking (Renda, 2015) or considering the viability of alternative governance options (Latzer, Just, Saurwein, & Slominski, 2003; Latzer, Saurwein, & Just, 2019; Puppis, 2010).

This article investigates the net neutrality policy-making process in a small country—Switzerland. It sketches a decade of net neutrality policymaking, from first parliamentary attempts at regulation to the most recent revision of the Telecommunications Act (TCA), and explores the arguments employed by the actors involved in policymaking to advocate or prevent particular regulatory solutions. The study uses a

Natascha Just: n.just@ikmz.uzh.ch
Manuel Puppis: manuel.puppis@unifr.ch
Date submitted: 2019–04–19

policy-cycle framework, which distinguishes distinct stages of political decision making, and is based on a qualitative content analysis.

This article first revisits the contested meaning of net neutrality and its transformation, the policy objectives pursued with it, and research about net neutrality debates and policy-making processes. Embedded in a discussion of the policy-cycle model and institutional influences on policy outcomes, it then describes the various peculiarities of the Swiss decision-making process and discusses the research questions and the methods of data collection and analysis. This is followed by detailed results of the empirical analysis and a conclusion.

The Net Neutrality Principle

From Technical and Pricing Issues to Requisite Means for a Plethora of Ends

During its rise to fame, the meaning of net neutrality underwent a tremendous metamorphosis. Although there is no agreed-on definition, the term generally refers to a principle that all Internet traffic should be treated equally (i.e., should not be blocked, prioritized, or throttled, regardless of content, application, source, or destination). Most of today's reasoning about the indispensability of net neutrality rests on the idea of the original application-blind, layered, end-to-end Internet architecture (van Schewick, 2016), alongside the best effort principle and the traditional bill-and-keep system. Various scholars have cautioned that this reference to an allegedly neutral network is misguided because the Internet at large has not been neutral for a long time (e.g., Renda, 2008; Yoo, 2013). For example, the theoretical possibility of prioritizing data packets and employing quality-of-service management techniques existed long before this debate surfaced (Krämer, Wiewiorra, & Weinhardt, 2013). Furthermore, although the general understanding of net neutrality is very broad, in a strict sense it refers to network management practices that apply to the last-mile Internet service provider (ISP) with a focus on the downloading of content, meaning that any network management practice that occurs outside the last mile would not be considered a violation of net neutrality. Similarly, agreements that guarantee packet precedence by content delivery networks or paid-peering agreements would basically be outside of net neutrality regulation, too (Easley, Guo, & Krämer, 2018). Moreover, the Internet is full of agreements that are governed by private contracts and market forces—a position that is rarely reflected in policy debates.

Altogether, net neutrality has evolved from an originally technical and pricing issue at the infrastructure level, with innovation and competition inhibiting consequences and a focus on ISPs as potential last-mile gatekeepers and their relationship to content/application service providers (CAPs), to an almost catch-all policy term and regulatory remedy for all sorts of Internet problems. As such, while considered an end in itself, net neutrality now assumes the role of a requisite means for various other ends, ranging from innovation (e.g., Bauer & Knieps, 2018; Latzer, 2013; Neute, 2016; Schultze & Whitt, 2016; van Schewick, 2010), traffic management and infrastructure development (e.g., Dischinger et al., 2010; Faulhaber, 2011; Krämer et al., 2013; Maltinsky, Giladi, & Shavitt, 2017; van Schewick, 2015), competition and abusive practices (e.g., Baake & Sudaric, 2018; Faulhaber, 2011; Renda, 2015), public-sphere considerations (Löblich & Musiani, 2014), and questions of diversity and freedom of expression (Audibert & Murray, 2016; Renda, 2015; Sluijs, 2012). This then makes net neutrality a topic that inevitably requires reconciling political and economic goals (Bauer & Obar, 2014). Though conclusions on the impact of net neutrality regulation are theoretically contested and, because of scarce research, empirically an open question, these objectives are repeatedly invoked in the debates.

Evidently, the originally rather narrow scope of net neutrality has been expanded, and it now stands almost as a guarantor for an overall "open Internet"—a term also more preferably employed in policy debates and law. Kimball (2013) investigates the history of the term in the U.S. and explains how it has been translated by various stakeholders and has absorbed their values and interests through processes of discursive construction. Altogether, this expansion of the meaning increasingly comprises the different layers of the Internet, and correspondingly also issues of content, service, device, or platform neutrality (e.g., Krämer et al., 2013; Pasquale, 2016; Renda, 2015)—all issues essentially outside the scope of strict net neutrality. Although it is questionable whether net neutrality can do justice to this plethora of goals or remedy any of them, these arguments constitute the background against which net neutrality regulation is being developed and discussed—as will also be shown in the empirical analysis of the Swiss policy-making process.

Research on Net Neutrality Debates and Policy-Making Processes

Net neutrality has become a prominent communications policy topic and has triggered substantial public debate. Although the bulk of research focuses on legal, economic, and technical aspects, fewer studies have explored various aspects of these debates. Even less work has been devoted to systematic inquiries into the various stages of actual net neutrality policy-making processes.

The question of who influences net neutrality debates has been a key concern. Kim, Chung, and Kim (2011) examined who informed the net neutrality debate through the mainstream media as well as through congressional and FCC hearings. Lee, Sang, and Xu (2015) followed suit with a study on information subsidizers on Twitter. Often, the focus is on Internet activism, including the identification of stakeholders involved in online debates and the question of what impact networked mobilization and communication has on the net neutrality issue. Accordingly, Herman and Kim (2014) identified the central websites in the debate, and Faris, Roberts, Etling, Othman, and Benkler (2016) examined the online net neutrality debate in the U.S.

Some have focused more on differences in stakeholders' positions. Ly, MacDonald, and Toze (2012) interviewed stakeholders in Canada and concluded that there are fewer disagreements among stakeholders than are often depicted in the literature. Löblich's (2016) study on civil advocacy groups and activist organizations in the U.S. explains differences in stakeholder positions on the grounds of race, class, trust, and space. Similarly, Cheng, Fleischmann, Wang, Ishita, and Oard (2012) approached differences in stakeholders' positions by examining the value differences among them. The extent to which there are differences among national discourses were tackled by Gerlach (2016), Powell and Cooper (2011), and Shin (2014).

Other work focuses on discursive practices (Kimball, 2013, 2016; Lentz, 2013), the impact of policy metaphors on attitudes toward net neutrality regulation (Hartman, 2012), or media framing (Stiegler & Sprumont, 2013).

Various studies examine the histories or approaches of net neutrality regulation and partly also include details on relevant actors in the decision-making process (e.g., chapters in Belli & De Filippi, 2016; Friedlander, 2016; Gerlach, 2016; Marsden, 2016, 2017).

Fewer studies are explicitly devoted to the examination of the actual policy-making process. Hart (2011) describes the U.S. net neutrality debate from 2006 to 2010 and explains the politics behind it, showing a strong relationship between the debate and partisan politics. Cherry (2007) focuses on the stage of agenda setting and strategies of agenda-denial by opponents of net neutrality regulation. Milosavljević, Poler, and Kerševan Smokvina (2019) provide an in-depth analysis of Slovenia's net neutrality policy from 2010 to 2018.

Altogether, this literature review indicates that studies mostly focus on particular aspects of who is involved in debates and the different positions these stakeholders have, while work that explicitly investigates the formal policy-making process and the arguments of actors involved is less common. Furthermore, many studies are concerned with the U.S., and there is less work on smaller jurisdictions. This article contributes to closing these gaps by systematically investigating the policy-making process and the influence and interests of actors in the political process that eventually led to net neutrality regulation in a small country.

Analyzing the Policy-Making Process

The Policy-Making Process in Switzerland

The stage-based approach to decision making, inspired by the policy cycle, is an influential framework for understanding policy processes (Anderson, 1975; Lasswell, 1956; Windhoff-Héritier, 1987). It divides the complex policy process into a series of discrete stages, often labeled problem definition, agenda setting, policy formulation, policy implementation, and policy evaluation. This approach has limitations, most importantly, its sequential analysis of the policy process and its mostly descriptive nature (Sabatier, 2008). Nevertheless, it offers a valuable heuristic and its application in research has produced important insights into the complex preconditions, central influencing factors, and varied outcomes of policy processes (Jann & Wegrich, 2007). It is helpful, among other things, for identifying the actors involved and the arguments they employ in the different stages of policymaking.

Actors' opportunities to influence policymaking along these stages and the resulting policy outcomes vary among political systems. Historical institutionalism with its emphasis on path dependency (Bannerman & Haggart, 2015; Hall & Taylor, 1996; Jann & Wegrich, 2007) is particularly helpful to understand how institutional rules establish distinct logics of decision making that shape both government action and interest-group influence (Immergut, 1992).

The Swiss political system features various institutional characteristics that have distinct effects on policymaking. The existence of a grand-coalition government, bicameralism, federalism, and direct-democratic elements—such as the popular initiative, which provides a possibility to put an issue on the political agenda, sidestepping government and parliament, and the optional referendum, which can be called by those opposing a bill adopted by parliament—result in power sharing and consensual decision making (Immergut, 1992; Papadopoulos, 2001). Hence, Switzerland is considered a "consociational" or "consensus democracy" (Lehmbruch, 1993; Lijphart, 1989, 1999). The prospect of a referendum is an important veto point, as it allows for overriding parliamentary decisions. Consequently, it affects the whole stage of policy formulation, which is usually divided into three distinct phases (Sciarini, 2007).

- The option of a referendum leads to a sophisticated preparliamentary phase. A public consultation takes place for every draft bill the Federal Council (government) proposes, and all interested actors can submit a written response. The desire to make legislative proposals referendum-proof strengthens the influence of interest groups, which in turn favors incremental change and a pro-status-quo bias (Immergut, 1992; Papadopoulos, 2001, 2008).

- Based on the feedback gathered during the preparliamentary phase, the government and the federal administration prepare a second draft of the bill, which is then introduced to parliament. In the subsequent parliamentary phase, the responsible select committees and plenaries of both chambers of parliament discuss the bill.

- After parliament's final vote on a bill, citizens and organizations opposing the bill can call for a referendum. If no referendum is called or it is rejected, the bill is adopted and enters into force.

Besides the desire to make a bill referendum-proof, the traditional reliance on private-sector solutions and the strong ties of the dominating conservative parties to business interests (Mach & Trampusch, 2011) make the Swiss political system less prone to regulatory intervention.

Research Questions and Methods

The current TCA does not contain specific net neutrality regulations. It only lays down that government "may require providers of telecommunications services to publish information concerning the quality of telecommunications services provided by them," which could also include information about the treatment of Internet data (Art. 12a [2], Telecommunications Act 1997, as amended). Only since the early 2010s has net neutrality attracted more attention in policymaking, and it was one of the topics discussed during the most recent revision of the TCA, adopted in 2019.

This article investigates the different stages of the Swiss net neutrality policy-making process from problem definition to adoption of the revised TCA. In particular, it addresses the following research questions:

RQ1: Which actors participated in the policy-making process?

RQ2: What arguments did they employ to advocate or prevent particular regulatory solutions, and what was the result of this process?

The institutional peculiarities of the political decision-making process in Switzerland, its general reluctance toward regulatory intervention, and the traditional reliance on private-sector solutions to regulatory problems provide indications that government and parliament will abstain from introducing net neutrality regulation. As the results will show, things played out quite differently.

To analyze the arguments of the various actors involved in the policy-making process, this study uses a qualitative content analysis of documents. First, all the documents relating to the Swiss TCA revision and attendant policy-making process that were available from the federal chancellery, the federal administration, and parliamentary services were collected. These included official documents such as government reports, TCA drafts, parliamentary motions and postulates, press releases, minutes of plenary debates in parliament, and 151 comments filed during the public consultation of the TCA draft. These documents were screened to regarding the information they contained about net neutrality. Altogether, net neutrality was only one of many topics—such as roaming or access to the last mile—in the TCA revision, and some documents mention it only briefly. For example, of the 151 actors that submitted a statement during the consultation, only 71 at least mentioned net neutrality. A rough appraisal of the word count of the parliamentary debates in the National Council and the Council of States indicates that only 6% to 8% of them concerned net neutrality. Only documents that discussed net neutrality were eventually incorporated and subjected to source criticism before analysis (Karppinen & Moe, 2019; Reh, 1995; Scott, 1990).

Next, the documents were analyzed by applying qualitative content analysis. While originating in the U.S. (Kracauer, 1952), until recently the method was most popular in German-speaking countries (Kuckartz, 2014; Mayring, 2015). More recently, there has been an uptake internationally (Julien, 2008; Puppis, 2019; Schreier, 2014) due to the method's systematic rule-based approach, its usefulness for reducing text material, and its suitability for both deductive and inductive coding. In this study, the documents were inductively coded with MAXQDA to reveal the arguments employed by the various actors involved in policymaking to advocate or avoid specific governance options and regulatory solutions about net neutrality in the different stages of the policy-making process. These codes were consistently applied to the entire corpus and related to arguments for and against transparency requirements, a regulation of net neutrality, and exemptions from regulation for specialized services. For each category, coded segments were then thematically compared before connecting the categories to each other.

Results

This section discusses the results of the Swiss net neutrality policy-making process (see Figure 1 for an overview).

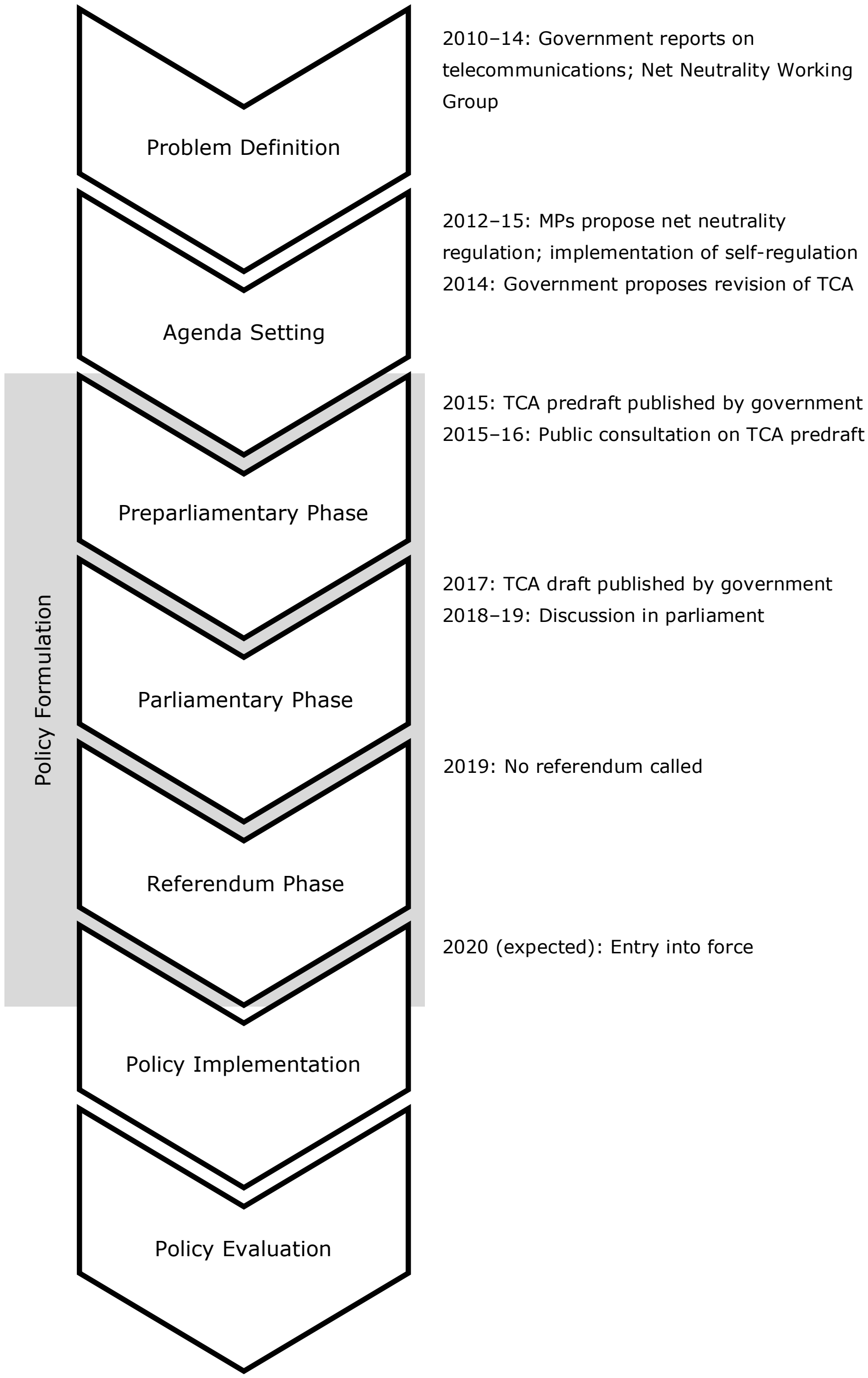

Figure 1. The Swiss policy-making process and the case of net neutrality.

Problem Definition

When the Swiss government first looked into the need to revise the TCA in the early 2010s, net neutrality was not yet considered a major issue. In 2010, because of a postulate adopted by the Council of States (the upper chamber of parliament), the government prepared a first report to evaluate the development of the telecommunications market and the need to revise the TCA. Among many other issues, the report discussed net neutrality and the opportunities and risks of its regulation (see Table 1).

Table 1. Arguments For and Against Regulation Considered by Government.

Arguments	
Against regulation	Restricts economic freedom and revenues sources of TSPs
	No incentive for investment in infrastructure
	Prevents necessary traffic management
	No need for regulation, as there is no market failure
For regulation	Discrimination against third-party services
	Impediment to innovation and market entry
	Market failure and abuse by TSPs
	Consumer protection
	Media diversity
	Freedom of information and expression

Note. Documents analyzed: Federal Council (2010, 2012).

The government eventually held that it was too soon to revise a law that had entered into force only in 2007 (Federal Council, 2010). After the respective select committees in both chambers of parliament discussed the report, they asked the government to prepare an updated report on the development of the telecommunications markets, which was published in 2012. The arguments for and against a regulation of net neutrality remained basically unchanged, and the government still did not feel that the time had come to revise the TCA. However, it promised to start working on a revision of the law before the end of the parliamentary term in fall 2015 (Federal Council, 2012).

As part of the government's preparatory work for a TCA revision, it created a Net Neutrality Working Group and invited representatives of the telecommunications industry, users, consumer-protection organizations, and public broadcasting to participate. The aim of the working group was to provide an overview of net neutrality to provide essential information for the revision of the law (see Table 2). The group published its report in fall 2014 (BAKOM, 2014).

Table 2. Arguments For and Against Regulation Considered by the Net Neutrality Working Group.

Arguments	
Against regulation	Restricts economic freedom of TSPs
	Impediment to innovation
	Prevents necessary traffic management
	Implementation problems
	No need for regulation as there is no market failure
For regulation	Discrimination against third-party services
	Impediment to innovation and market entry
	Market failure and abuse by TSPs
	Incentive for investment in infrastructure
	Competition law not sufficient
	Traffic management remains possible
	Consumer protection
	Internet as a basic infrastructure for society
	Media diversity
	Freedom of information and expression

Note. Document analyzed: BAKOM (2014).

Agenda Setting

Unimpressed by the government's wait-and-see approach, MPs unsuccessfully tried to put net neutrality on the agenda themselves. In a motion on the legal stipulation of net neutrality submitted to the National Council (the lower chamber), the government was asked to enshrine net neutrality into law in the upcoming TCA revision. The MPs argued that net neutrality was necessary to protect freedom of information and expression, consumers and innovation, and to prevent discrimination against online services by third parties. The government considered the motion premature (see Table 3). Nevertheless, the National Council adopted it by a clear majority of 118 to 61, with 18 abstentions (Motion 12.4212, 2012; Official Bulletin of the National Council AB N, 2014, pp. 1134–1135; for a list of actors, see Table A1 in the Appendix).

Before the motion was discussed in the Council of States, two related developments took place. First, in late 2014, the telecommunications industry introduced a self-regulatory code and arbitration board on net neutrality to guarantee transparency for end users. The industry thus committed itself to safeguarding freedom of information and to refrain from blocking applications and services. Net neutrality as such, however, is not guaranteed by this self-regulation ("Code of Conduct Net Neutrality," 2017). Second, the government moved forward with the promised TCA revision. In its third report on the development of the Swiss telecommunications market, it announced a revision of the law that would also contain transparency requirements for (tele-)communications service providers with respect to net neutrality, but it refrained from stricter regulation, arguing that there are technical and economic reasons for preferential treatment of services (Federal Council, 2014).

When the motion to enshrine net neutrality in law was eventually discussed by the Council of States, it was rejected. The majority of MPs argued that the newly introduced self-regulation and the transparency requirements proposed by the government were sufficient. Stricter regulation was deemed unnecessary given that there was no evidence of market failure, and it was believed it would stifle innovation (Official Bulletin of the Council of States AB S, 2015, pp. 195–198; see Table 3).

Table 3. Arguments For and Against Regulation Considered in Parliamentary Debates on Motion 12.4212.

Arguments		**Actors**
Against regulation	Wait and see	Bieri/CVP, Federal Council
	Transparency obligation is sufficient	TTC-S, Federal Council
	Self-regulation is sufficient	TTC-S, Federal Council
	Reverse discrimination	TTC-S, Federal Council
	Impediment to innovation	TTC-S, Federal Council
	No need for regulation, as there is no market failure	TTC-S
For regulation	Discrimination against third-party services	Motion 12.4212
	Impediment to innovation and market entry	Motion 12.4212; Glättli/GP; Janiak/SP; Stadler/GLP; Recordon/GP
	Market failure and abuse by TSPs	Recordon/GP
	Traffic management remains possible	Motion 12.4212
	Consumer protection	Motion 12.4212; Glättli/GP; Janiak/SP, Stadler/GLP
	The Internet as a basic infrastructure for society	Glättli/GP
	Media diversity	Janiak/SP
	Freedom of information and expression	Motion 12.4212; Glättli/GP; TTC-S Minority; Janiak/SP; Recordon/GP

Note. Documents analyzed: Official Bulletin of the National Council AB N (2014); Official Bulletin of the Council of States AB S (2015); Motion 12.4212, 2012.

Preparliamentary Phase of Policy Formulation

Consistent with the announced course of action, the government's predraft of the new TCA published in late 2015 contained a requirement for (tele-)communications service providers to inform end users about any discrimination of content transmission (Telecommunications Act Pre-Draft 2015, authors' translation):

Article 12a "Information on telecommunications services"
(2) If they [the providers of telecommunications services] treat information technically or economically differently during transmission, they have to inform about it publicly.
(3) They inform publicly about the quality of telecommunications services offered.

The government argued that this transparency obligation helps in strengthening the consumers' sovereignty as well as consumer protection, allows for innovation, and keeps costs for TSPs low (UVEK, 2015). At this time, the U.S., the EU, and other countries had already adopted net neutrality provisions (e.g., Gerlach, 2016; Marsden, 2017). Nevertheless, the Swiss government did not see a need for regulation.

The subsequent public consultation on this predraft showed that opinions among parties, associations, corporations, and NGOs about net neutrality were sharply divided (UVEK, 2016; written statements by various actors—see Table 4 and Table A1 for an overview of involved actors). Of the 71 statements that touched on net neutrality, several were (nearly) identical, pointing to a concerted action of different coalitions (see Table A2 in the Appendix).

Table 4. Actors Participating in the Public Consultation.

Category	**Actors**
Political parties	BDP, CVP, FDP, GLP, GP, PP, SP, SVP
Federal bodies	Federal Media Commission, Price Regulator
Umbrella organizations	Economiesuisse, ICT Switzerland, SGB, SGV
Trade associations	telecommunications: asut, Glasfasernetz Schweiz, openaxs, Suissedigital Broadcasting: RRR, TeleSuisse, VSP
Companies	Telecommunications: Quickline, Salt, Sunrise, Swisscom, UPC, VTX Broadcasting: 3+, AZ Medien, SRG IT: Microsoft
Consumer protection organizations	ASCI, FRC, kf, SKS
NGOs	/ch/open, Digitale Gesellschaft, ISCO-CH, WikimediaCH

There was disagreement about whether the proposed transparency obligation was necessary at all (see Table 5). The federation of industries (Economiesuisse), the association of small and medium-sized businesses (SGV), the trade associations of telecommunications service providers (asut), fiber-optic networks (Glasfasernetz Schweiz), and cable networks (Suissedigital—and 20 identical statements by some of its members), as well as the big telecommunications companies (the incumbent Swisscom, UPC, and Salt) were opposed to the proposed requirement. They argued that self-regulation was sufficient and that there was no evidence of market failure that would require additional regulation. This coalition was supported by center-right parties (BDP, CVP) and a conservative consumer protection organization (kf). Moreover, Economiesuisse and Suissedigital worried that transparency requirements would hinder innovation.

Table 5. Arguments For and Against Transparency Obligation During Public Consultation.

Arguments		**Actors**
Against transparency obligation	No need for regulation, as there is no market failure	Economiesuisse, SGV asut, Suissedigital (and members), Glasfasernetz Schweiz TSP (Swisscom)
	Self-regulation sufficient	CVP, BDP Economiesuisse asut, Suissedigital (and members), Glasfasernetz Schweiz TSPs (Salt, Swisscom, UPC) kf various actors
	Impediment to innovation	Economiesuisse Suissedigital (and members)
	High costs	TSPs (Quickline, Salt)
	Competition law sufficient	TSP (Salt)
No position		ICT Switzerland
For transparency obligation	Self-regulation not sufficient	PP Federal Media Commission openaxs, VSP Microsoft SKS, FRC, ACSI NGOs
	Provide consumers with information	FDP, SP Price Regulator TSPs (Sunrise, VTX), Microsoft Various actors
	Impediment to innovation and market entry	GLP
	Low costs	Microsoft
	Consumer protection	SKS, FRC, ACSI Various actors

Note. Documents analyzed: BAKOM (2016); UVEK (2016).

Conversely, several actors emphasized that self-regulation was insufficient. These included various civil-society organizations committed to an “open Internet” (nearly identical statements by associations such as /ch/open, Verein Digitale Gesellschaft, and ISOC-CH, hereafter called NGOs), the Federal Media Commission, the trade associations of private radio stations (VSP), and electricity companies for the promotion of open broadband networks (openaxs), the main consumer protection organizations (SKS, FRC, ACSI), the Pirate Party (PP), and Microsoft. In addition, the Price Regulator, the Social-Democratic Party

(SP), and the Liberal Party (FDP), some (tele-)communications service providers, and Microsoft argued that transparency was needed to provide consumers with sufficient information. It was also argued that a transparency obligation was needed to allow for innovation (Green Liberal Party GLP), protect consumers (consumer protection organizations SKS, FRC, ACSI), and would be inexpensive for telecommunications companies (Microsoft).

Actors also raised the issue of whether statutory regulation beyond transparency requirements was needed to guarantee net neutrality (see Table 6).

Table 6. Arguments For and Against Stricter Regulation During Public Consultation.

Arguments		**Actors**
Against regulation	No need for regulation, as there is no market failure	BDP TSP (Swisscom) various actors
	Transparency obligation is sufficient	FDP Suissedigital (and members) TSPs (Salt, VTX) various actors
	Impediment to innovation	BDP SGV
	No incentive for investment in infrastructure	SGV
	Favors global companies	TSP (VTX)
No position		ICT Switzerland
For regulation	Discrimination against third-party services	SGB RRR, TeleSuisse, VSP Broadcasters (3+, AZ, SRG), Microsoft NGOs
	Impediment to innovation and market entry	SP, GLP openaxs, RRR, TeleSuisse, VSP Broadcasters (3+, AZ, SRG), Microsoft NGOs
	Transparency not sufficient	GLP, GP, SPS, PP Federal Media Commission SGB RRR, TeleSuisse, VSP Broadcasters (3+, AZ, SRG), Microsoft SKS, FRC, ACSI NGOs various actors

	Self-regulation not sufficient	PP Federal Media Commission openaxs, VSP Microsoft SKS, FRC, ACSI NGOs
	Market failure and abuse by TSPs	GLP RRR, TeleSuisse, VSP Broadcasters (3+, AZ, SRG), Microsoft NGOs
	Traffic management remains possible	SP Microsoft NGOs
	Consumer protection	SP RRR, TeleSuisse, VSP Broadcasters (3+, AZ, SRG), Microsoft SKS, FRC, ACSI NGOs
	The Internet as a basic infrastructure for society	SP SGB Microsoft, TSP (Init7)
	Media diversity	Federal Media Commission RRR, TeleSuisse, VSP Broadcasters (3+, AZ, SRG) WikimediaCH
	Adapt to EU regulation	Microsoft various actors
	Freedom of information and expression	SP RRR, TeleSuisse, VSP Broadcasters (3+, AZ, SRG) WikimediaCH

Note. Documents analyzed: BAKOM (2016); UVEK (2016).

Generally, actors that opposed the transparency obligation also rejected stricter regulation. Yet some of the actors who supported transparency also voiced their opposition to enshrining net neutrality in law. They argued that additional regulation was unnecessary (Swisscom, center-right party BDP) or that transparency requirements go far enough (Suissedigital and many of its members, TSPs, Liberal Party FDP). Additional arguments against regulation were obstacles to innovation (SGV, BDP) and to investment in infrastructure (SGV).

Conversely, a broad coalition of actors ranging from center-left parties and unions to media companies supported the inclusion of the net neutrality principle in the new TCA. Several actors argued that a transparency requirement was not enough—namely, the major public and private broadcasters and their trade associations (joint statement by SRG, 3+, AZ Medien, Goldbach, RRR, TeleSuisse, VSP), center-left parties (SP, GP, GLP, PP), the federation of trade unions (SGB), the main consumer protection organizations (SKS, FRC, ACSI), the Federal Media Commission, civil society organizations committed to an "open Internet" (NGOs), and Microsoft. They advocated regulation both on economic and social grounds. Economic arguments included consumer protection (NGOs, consumer protection organizations, broadcasters, Microsoft), obstacles to innovation and market entry (NGOs, center-left parties SP and GLP, broadcasters, Microsoft, openaxs), the need to prevent discrimination against third-party online services (NGOs, broadcasters, SGB, Microsoft), as well as market failure (NGOs, GLP, broadcasters, Microsoft). In addition, few actors also called for regulation referring to social objectives such as media diversity (Federal Media Commission, broadcasters, WikimediaCH), freedom of information and expression (SP, broadcasters, WikimediaCH), and preserving the Internet as a basic infrastructure (SGB, SP, Microsoft). Interestingly, only a few actors noted that the EU had also passed a net neutrality regulation and argued that Switzerland should adapt to these rules.

Parliamentary Phase of Policy Formulation

Once the public consultation ended, the government decided to refrain from stronger regulation and sent the bill to parliament basically unchanged, at least with respect to net neutrality. Articles 12a (2) and (3) of the 2017 TCA draft (Telecommunications Act Draft 2017) still contained the same requirements for telecommunications service providers to inform the public if they were treating information differently during transmission and to inform about the quality of service. Given the contradictory feedback about net neutrality regulation, the government regarded its original proposition as a working compromise (Federal Council, 2017, p. 6601).

However, in parliament, the draft bill underwent some decisive changes. A majority of the select committee for transport and telecommunications of the National Council (TTC-N) suddenly proposed stronger regulation in a new Article 12e dedicated to the "open Internet" (TTC-N, 2018, authors' translation):

> Article 12e "Open Internet"
> (1) Internet access service providers transmit information without distinguishing either technically or economically between senders, receivers, content, services, service classes, protocols, applications, programs, or terminal equipment used.
> (2) They may transmit information differently if this is necessary to
> a. comply with legal provisions or a court decision;
> b. preserve the integrity or security of the network, of services provided via that network, or of the connected terminal equipment;
> c. fulfill the explicit request of customers; or
> d. combat temporary and exceptional network congestion, provided that equivalent kinds of data traffic are treated equally.
> (3) If they treat information technically or economically differently during transmission, they have to publicly inform their customers.

In autumn 2018, the proposal won a majority in the National Council despite government opposition (Official Bulletin of the National Council AB N, 2018, pp. 1691–1709, 1711–1726). In the parliamentary debate, no one put forward any arguments against the transparency obligation proposed by the government—despite the strong opposition during the public consultation (see Table 7; for a list of actors, see Table A1 in the Appendix).

Table 7. Arguments For and Against Transparency Obligation in Parliament.

Arguments		**Actors**
Against transparency obligation	–	–
For transparency obligation	Provide consumers with information	Federal Council

Note. Document analyzed: Official Bulletin of the National Council AB N (2018).

An even greater surprise than the absence of opposition to transparency requirements was that an overwhelming majority followed the select committee and voted in favor of the newly proposed regulation (182 votes in favor, five against). MPs across the political spectrum argued that transparency requirements and self-regulation were insufficient to guarantee net neutrality. Rather, reinforcing the principle in law was deemed necessary to prevent discrimination against third-party services, protect consumers, safeguard innovation and market entry, as well as to preserve an "open Internet" as a basic infrastructure for society. In contrast to the public consultation, the government was alone in arguing that stricter regulation could hinder innovation and was unnecessary because of a lack of market failure, the existence of competition law, self-regulation, and the proposed transparency obligation (see Table 8). Its representative claimed that such transparency would provide sufficient information for "customers to vote with their feet and change their Internet access provider" (Federal Councilor Doris Leuthard, Official Bulletin of the National Council AB N, 2018, p. 1714).

Table 8. Arguments For and Against Stricter Regulation in Parliament.

Arguments		**Actors**
Against regulation	No need for regulation, as there is no market failure	Federal Council
	Transparency obligation is sufficient	Federal Council
	Restricts economic freedom/impediment to innovation/self-regulation sufficient/reverse discrimination/competition law sufficient	Federal Council
No position		Hiltpold/FDP
For regulation	Discrimination against third-party services	Grossen/GLP
	Impediment to innovation and market entry	Töngi/GP; Ammann/CVP; Grossen/GLP
	Transparency not sufficient	TTC-N; Burkart/FDP; Rickli/SVP
	Self-regulation not sufficient	Rickli/SVP
	Market failure and abuse by TSPs	Rickli/SVP
	Traffic management remains possible	Aebischer/SP
	Consumer protection	Ammann/CVP; Rickli/SVP; Aebischer/SP; Grossen/GLP
	The Internet as a basic infrastructure for society	TTC-N; Hardegger/SP; Töngi/GP; Grossen/GLP; Aebischer/SP
	Provide consumers with information	Hurter/SVP; Rickli/SVP; Grossen/GLP

Note. Documents analyzed: Official Bulletin of the National Council AB N (2018); Official Bulletin of the Council of States AB S (2018).

The Council of States' select committee for transport and telecommunications (TTC-S) was more reluctant about the newly proposed article and unanimously suggested amending the National Council's formulation with an exemption for specialized services (TTC-S, 2018, authors' translation):

> Article 12e "Open Internet"
> (2^{bis}) In addition to Internet access services, they [the providers of Internet access services] may offer other services using the same connection that do not offer access to the Internet and that are optimized for specific content, applications, or services if
> a. the optimization is necessary to meet quality requirements of customers for such content, applications, or services;
> b. the network capacity is sufficient to provide these services in addition to Internet access services provided;
> c. the other services are not usable or offered as a replacement for Internet access services;
> d. the other services are not to the detriment of the availability or general quality of Internet access services for end users.

The plenary debate in the Council of States only briefly touched on net neutrality and did not fundamentally question the need for regulation (Official Bulletin of the Council of States AB S, 2018, pp. 822–840). The debate focused entirely on the exemption for specialized services, and nobody argued against it (see Table 9).

Table 9. Arguments For and Against Exemption for Specialized Services in Parliament.

Arguments		**Actors**
Against exemption	–	–
For exemption	Flexibility and innovation	TTC-S
	Guarantee minimum quality of specialized services	TTC-S, Federal Council
	Compatibility with EU regulation	TTC-S, Federal Council

Note. Document analyzed: Official Bulletin of the Council of States AB S (2018).

MPs followed their select committee and voted in favor of such an exemption to guarantee the quality of specialized services (e.g., IPTV, self-driving cars, emergency services), allow for flexibility and innovation (especially in light of the upcoming 5G standard), and establish compatibility with EU regulations. Indeed, the amendment leads to an alignment with some EU rules ("Regulation [EU] 2015/2120," 2015, Art. 3). Altogether, the EU regulation is substantially longer, containing specifics about network management practices (e.g., no monitoring of specific content; no commercial interest, but technical necessity; personal data processing), but the Swiss counterpart is inspired by it and shares substantive ideas, especially about specialized services. Although the government still did not see the need for regulation beyond transparency requirements, it accepted a solution that would avoid adopting a stricter regulation than the EU's:

> The principle of equality adopted by the National Council is hard regulation . . . . It would go beyond EU regulation . . . . The provision designed by your committee is at least compatible with the EU. It is still regulation for an area where there is no problem. . . . But we can live with that. (Federal Councilor Doris Leuthard, Official Bulletin of the Council of States AB S, 2018, p. 831, authors' translation)

In the second reading of the bill, the National Council's select committee decided to support the exemption for specialized services. However, it proposed a more simplified provision than was suggested by the federal administration (BAKOM, 2019; TTC-N, 2019, authors' translation):

> Article 12e "Open Internet"
> (3) In addition to Internet access services, they [the providers of Internet access services] may offer other services using the same connection that have to be optimized for specific content, applications, or services to meet quality requirements of customers. The other services may not be usable or offered as a replacement for Internet access services, and they may not be to the detriment of the quality of Internet access services.

Both chambers of parliament voted in favor of this simplified formulation and adopted the revised TCA in March 2019 (Official Bulletin of the National Council AB N, 2019; Official Bulletin of the Council of States AB S, 2019). Because nobody called a referendum, the revised act including net neutrality regulation is projected to enter into force in 2020.

Discussion and Conclusion

Net neutrality has become a fiercely debated issue because of concerns that ISPs might block, prioritize, or throttle Internet traffic. This article's aim was to shed more light on how policies are developed and to analyze the arguments employed by the actors involved to advocate or prevent specific regulatory solutions for net neutrality in Switzerland.

Regarding the outcome of policymaking, the Swiss parliament opted to stipulate net neutrality by law against the will of the telecommunications industry (which advocated self-regulation) and the government (which favored a transparency obligation). This outcome is rather surprising, given that there are various institutional characteristics of the political decision-making process (e.g., prospective referendum) as well as Switzerland's traditional aversion to regulation and its trust in private-sector solutions that would have indicated otherwise.

Focusing on the actors involved in policymaking and their arguments, it becomes evident that the two opposing camps often discussed in research (CAPs and NGOs for regulation, and ISPs against regulation) are only identifiable during early stages of the policy process. The strong relationship between the net neutrality debate and partisan politics found in the U.S. (Faris et al., 2016; Hart, 2011) cannot be confirmed in the Swiss case. After an initial split along party lines, parliamentary debates showed agreement across the political spectrum. However, in line with previous research (Cheng et al., 2012; Hart, 2011), both camps employed economic arguments that emphasize competition, property rights, investment, and innovation. Proponents of regulation also used sociopolitical arguments (e.g., freedom of information, the Internet as a basic infrastructure, media diversity), but these were less prevalent and mainly voiced by left-wing parties, unions, and broadcasters.

To understand why proponents of net neutrality ultimately succeeded and why parliament opted for regulation is more difficult. As select committee meetings are confidential, the negotiations and interactions in committees remain a black box for researchers until minutes become available for research or the participants agree to share insights. If at all, this usually happens only after the law has been implemented. At that point, interviews may be a good option to shed more light on this issue.

For now, there are only theoretical explanations. An obvious answer would be policy diffusion and compatibility with EU regulations. Though not obligated to adopt EU law, Switzerland often unilaterally adapts to it. However, EU compatibility was a rare argument in the debate.

Political dynamics in negotiations seem to offer a more powerful explanation. Net neutrality was only one of many issues discussed during the TCA revision, and horse-trading was presumably a necessity. Agreeing to net neutrality regulation may have been considered less fraught with consequences than, for example, agreeing to complete last-mile unbundling—a proposal that was eventually dropped. The generic exemption for specialized services, the permission to differentiate upon customers' explicit request, and the de facto impossibility of ultimately verifying whether traffic management happens in violation of such rules point to eventually limited effects for ISPs. So far, few complaints have been filed with the self-regulatory arbitration board, which recently announced it was terminating its activity because of lack of demand and the newly adopted law. It is unlikely that more complaints will arise after the law comes into force. The exemption for specialized services may also have made it feasible for parliamentarians from across the political spectrum to agree to regulation, even more so as no unified business interests existed. Furthermore, the term "net neutrality" has evolved in a way that allows for subsuming very different policy objectives under it.

It is unclear whether net neutrality regulation will be effective in realizing policy objectives as varied as competition, innovation, media diversity, or freedom of expression. It is also uncertain whether net neutrality is really an adequate principle for the future development of the Internet and a satisfactory means for all the facets it seeks to address. In this vein, evaluating the impact, enforcement, and supervision of net neutrality regulation will require more scholarly attention in the future.

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Appendix

Table A1: List of Actors.

Actor	Description
Parliament	
TTC-N	Select committee for Transport and Telecommunications of the National Council
TTC-S	Select committee for Transport and Telecommunications of the Council of States
Political parties	
BDP	Conservative Democratic Party
CVP	Christian Democratic People's Party
FDP	Liberal Party
GLP	Green Liberal Party
GP	Green Party
PP	Pirate Party
SP	Social Democratic Party
SVP	Swiss People's Party
Federal administration	
Federal Media Commission	Independent advisory body on the media
Price Regulator	Authority monitoring price development in markets and eliminating abusive prices (increases or retention)
Umbrella organizations	
Economiesuisse	Federation of industries
SGV	Association of small and medium-sized businesses
ICT Switzerland	Organization representing the digital economy
SGB	Federation of trade unions
Trade associations	
asut	Telecommunications service providers
Glasfasernetz Schweiz	Fiber-optic providers
openaxs	Electricity companies for the promotion of open broadband networks
Suissedigital	Cable networks
RRR	French-language regional radio stations
TeleSuisse	Private TV stations
VSP	Private radio stations

Individual companies	
Broadcasting	3+ (commercial TV), AZ Medien (commercial TV), Goldbach (advertising marketer), SRG (public service broadcaster),
Telecommunications	Quickline, Salt, Sunrise, Swisscom (incumbent), UPC, VTX
IT	Microsoft
Consumer protection organizations	
ACSI	Main consumer protection organization (Italian)
FRC	Main consumer protection organization (French)
kf	Conservative consumer protection organization
SKS	Main consumer protection organization (German)
Others	
/ch/open	Association promoting open source and open standards
Digitale Gesellschaft	NGO advocating basic rights in digital society
ISOC-CH	Internet Society Switzerland Chapter
WikimediaCH	Swiss Chapter of Wikimedia Foundation

Table A2: Actors with Joint or (Nearly) Identical Statements.

Group	Actors
NGOs in favor of an open Internet	(Nearly) identical statements by 10 actors, including NGOs, WikimediaCH, /ch/open, Internet Society Chapter Switzerland, Digitale Gesellschaft, and the Pirate Party
Broadcasters	Joint statement by the trade associations of private TV (TeleSuisse) and radio (VSP and RRR) as well as media organizations SRG (public service broadcaster), 3+ (commercial TV), AZ Medien (commercial TV), and Goldbach (advertising marketer)
Cable TV and broadband providers	(Nearly) identical statements by Suissedigital (trade association of cable networks) and 20 of its member organizations
Consumer protection organizations	Identical statements by SKS, FRC, and ACSI (main consumer protection organizations in the different language regions)

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The Carrier Wave Principle

ARAM SINNREICH
American University, USA

JESSE GILBERT
Dark Matter Media, USA

In this article, we propose a new theoretical premise called the "carrier wave principle." It holds that there is no fixed limit to the amount and variety of knowledge that may be produced from a given cultural artifact. This can be understood in relation to the exponential growth in the power and ubiquity of computational processing, which has reduced the procedural distance between cultural production, transmission, archiving, reception, and analysis. The resulting cascade of new interpretive epistemes has challenged the capacity of individuals, communities, and institutions to adapt, posing real-world challenges for privacy, identity, and subjectivity. We conclude that this principle will be integral to developing media, policies, and technologies that empower individuals and communities as computational processing continues to expand in adoption and scope.

Keywords: media studies, science and technology studies, information science, surveillance, privacy, authorship, affordances, computational analysis, forensics, epistemology

> The saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom. —Isaac Asimov (Asimov & Shulman, 1988, p. 281)

Hidden figures long buried beneath classic paintings by Rembrandt, Bruegel, and Picasso are revealed through infrared and x-ray imaging, changing our understanding of cultural and social history (Bradshaw, 2018; MacLennan et al., 2019; Rice, 2018). Researchers point a camera at a bag of potato chips stored behind a wall of soundproof glass, and "eavesdrop" on the people in the room with it by resynthesizing sound waves from the microscopic ripples on the bag's surface (Davis et al., 2014). Police arrest former police officer Joseph James DeAngelo as the alleged Golden State Killer, decades after his horrific crimes, based on a match between DNA samples and an open source genealogy website (Kaiser, 2018). Analysis of public data from a fitness app reveals the location and movements of secret military bases in war zones such as Syria and Afghanistan (Pérez-Peña & Rosenberg, 2018). A state judge orders online retail titan Amazon to hand over recordings of a private citizen's household collected by its Echo "smart device" as evidence in a murder trial (Ferguson, 2018).

Aram Sinnreich: aram@american.edu
Jesse Gilbert: jessegilbert@gmail.com
Date submitted: 2019–04–08

Each of these stories has something in common: cultural and technological artifacts (a painting, an app, a bag of chips), placed into new social and institutional contexts, and with the aid of computational technologies, end up revealing far more than their creators originally intended them to and, in many cases, more than they could have imagined.

Anecdotes such as these are often treated as *sui generis* novelties, strange episodes at the periphery of normal social, cultural, and technological processes. When they are discussed within a broader context, the scope of discussion is typically limited to the particularities of the case: The forensic analysis of old paintings is presented as an unalloyed benefit to art historians; the fitness app data are interpreted as a cybersecurity threat with consequences for America's strategic military interests; the use of Amazon Echo recordings in a murder case revives longstanding debates about the relative social benefits of surveillance and privacy. Not only are these contexts wholly separate from one another, each is framed as contiguous with predigital practices and concerns. The addition of computational analysis, therefore, is relegated to little more than a new twist on an old story: Forensic art history adds a new tool; military security faces a new threat.

Although each of these contexts is certainly appropriate for the case study in question, and each site-specific discussion deserves merit in its own right, we argue in this article that the broader principle that unites them is also worthy of investigation, and may have profound implications for media studies as a field of research and for media as a site of social action. Individually, the examples we cite may represent historical continuity within their separate spheres, but collectively they represent a distinct rupture in the relationship between media and society, and require us to reinvestigate our assumptions about culture, technology, and policy, as well as the interdependencies among them.

Specifically, we argue that, although anecdotes such as those we have cited are commonly understood and presented as proverbial "exceptions that prove the rule," or what are often referred to as "edge cases," in the parlance of engineering and law (Powell, 2015), and therefore notable for their ambiguous ethics or interpretive valence, they are actually exemplary of a much broader principle that applies to all cultural artifacts, which for reasons that will become clear, we refer to as the "carrier wave principle." The rudiments of this principle can be summarized thus:

- There is no fixed limit to the amount and variety of knowledge that may be produced[1] from a given cultural artifact. This may be understood via the concept of "*n*-way,"

[1] We intentionally use the verb *produced* in this framing to emphasize that knowledge is not an inherent quality of a text or artifact, but something derived from it. This framing draws on Machlup (1962), for whom the term refers to something "socially new" (p. 145) generated—and, more importantly, shared—by researchers and creators. We also use it to invoke Foucault (1995), for whom the production of knowledge is inherently an act of power. Finally, in this article, we take pains to differentiate among terms such as *data*, *information*, and *knowledge*, adhering to the accepted categorical delineations outlined in the field of information science (see Zins, 2007), while bearing in mind that the very subject of our article—the epistemological disruptions engendered by computational processing—demands a reinvestigation of these categorical differences (Kitchin, 2014).

used in mathematics and computer science (e.g., Carroll & Chang, 1970; Kolda & Bader, 2009), to describe the greatest number of possible relationships among elements within or between data sets.

- As a given artifact is displaced temporally, geographically, and/or culturally from its origins, the tacit assumptions and omissions intrinsic to the circumstances of its production become increasingly evident, an epistemic shift that reframes the artifact not merely as a transmissive vessel for information, but as a site of inquiry itself. This *n*-way process is iterative and lateral, and as one episteme gives way to or competes with another (Foucault, 2005), multiple "layers" of knowledge may be produced from the same artifact.

- These two interrelated conditions (*n*-way potential meanings, generated via epistemic displacement) are immanent to mediated culture, and have been discussed, in various ways, by social theorists for thousands of years. Historically, the production of knowledge has been premised on a dialectical relationship between technology, on the one hand, and culture on the other.

- The addition of ubiquitous computational processing to a globally networked communications infrastructure has collapsed this dialectic, drastically reducing the latency among production, transmission, archiving, reception, and analysis. The sociotechnical affordances of this newly synthetic cultural infrastructure have catalyzed a cascade of new epistemes, which are so numerous, diverse, and irreconcilable that they challenge the capacity of individuals, communities, and institutions to adapt.

The challenges precipitated by the digitization of culture have been discussed extensively in terms related to crises of social institutions and power, including the need for "big data ethics" (boyd & Crawford, 2012; Richards & King, 2014; Zwitter, 2014), the disruptions to traditional media and communications industries (Craig & Cunningham, 2019; Wikström & DeFillippi, 2016), and the dangers of algorithmic governance (Gillespie, 2018; Sinnreich, 2018). Our aim in this article is to raise an additional crisis, which we view as causally proximate to the others: namely, that as the cultural infrastructure has become increasingly reliant on computational processing, everyday users have become commensurately less capable of understanding the consequences of their actions and interactions. Specifically, they are largely unaware, and uninformed, about the layers of knowledge that may be produced by any number of third parties from their creative, consumptive, and communicative practices (Gehl, 2011).

In short, digital technology—marketed to consumers as a tool of social progress and individual empowerment (Banet-Weiser, 2012; Wright, Pires, Stanton, & Rita, 2006)—has for the most part been designed and deployed to achieve fundamentally different ends. Primary among these is the production, stockpiling, synthesis, and commercial and political exploitation of data about users (Vaidhyanathan, 2018; West, 2019). In this article, we argue that, to develop cultural competencies, practices, and institutions necessary for digital technology to deliver on its promises, we must first theorize the conditions under which it has failed to do so.

Carrier Waves: A Brief Political History

Around the turn of the 20th century, researchers and inventors such as Morse, Marconi, and Tesla discovered that electromagnetic waves—a ubiquitous property of the natural world whose existence had been proven by Hertz in the 1880s—could be used to carry encoded information over long distances. This process built on principles explored by such researchers as Fourier, Germain, and Maxwell, who demonstrated that the qualities of waves in any medium may be described arithmetically, and that electromagnetic waves in particular may be transformed through the application of these mathematical principles.

Today, television, radio, and Wi-Fi transmissions all make use of this process. Using common standards, they encode information by modulating a given "carrier" waveform mathematically and transmit the encoded data via "channels" using designated frequency bands. This information is then decoded upon reception by extracting it from the carrier wave and making it legible via those same common standards. The 20th-century conceit of the broadcast channel may therefore be understood as the result of the commercial exploitation and consequent popular imaginary of the carrier wave as an engineering principle.

In classical engineering, as well as 20th-century broadcast industries and governance bodies, carrier waves were typically thought of as "neutral"—arbitrary and passive carriers of information. However, communication studies and science and technology studies (STS) scholarship (Dunbar-Hester, 2014; Slotten, 1995) has long argued that the establishment of carrier frequencies and encoding standards, as well as the laws, technologies, and economic relations that regulate and exploit the electromagnetic spectrum, are anything but neutral. In fact, the channelization of the spectrum can be understood as a map of the asymmetrical power relations between the multiple sets of stakeholders, such as programmers, manufacturers, rights holders, advertisers, audiences, and regulators themselves, who benefit from its commercial and governmental uses.

In a digital, networked context, the paradigm of the "neutral" medium—never more than a convenient (for some) fiction—becomes even more unsustainable. With the geometric growth in computational power and the ubiquity of data transmission across a range of different infrastructures, any media artifact or communication platform may be employed as a carrier wave by encoders and/or decoders, building on available conceptual and technological toolsets. In fact, the translation, manipulation, and synthesis of data as they move from one infrastructure to another, and one level of abstraction to another, are fundamental to all computational communications media, including but not limited to the Internet. This process is typically discussed in terms of moving data up and down "the stack" (Bratton, 2016; Farrel, 2004).

The carrier wave principle, as we postulate it, holds that every sociotechnical artifact, regardless of its intended or manifest cultural meaning, can be understood—not merely metaphorically, but with the same technosocial specificity that applies to carrier waves deployed in the context of radio or television broadcasts—as a carrier wave for *n*-way other potential meanings. These may be decoded with or without the knowledge (or, more significantly, the consent) of the artifact's creator(s), through the exploitation of a range of technological affordances (Gibson, 1979; Norman, 2013) both engineered (such as metadata fields in the case of a digital file) and environmental (such as sonic microvibrations in the case of a bag of chips).

In other words, given enough time and computational power, every material and informational object or assemblage may be added to the stack.

Just as a radio receiver must apply proper arithmetic and electronic transformations to successfully decode the audio signal carried on a given broadcasting channel, the *n*-way layers of information that may be derived from other sociotechnical artifacts become culturally legible only when new paradigms of reception, often accelerated by developments in computational analysis, allow investigators to parse their signals from the carrier in question. This is why the analytical framework of the carrier wave is so useful: It emphasizes that the ability to produce knowledge is both reliant on a set of technosocial standards and, as a result of that, is unequally distributed among social stakeholders (a consequence that is not lost on end users and data subjects themselves, as demonstrated in Andrejevic, 2014). It also helps us understand the commercial, regulatory, and political apparatuses that are emerging around computational processing within a historical context: The new modalities of knowledge production may use different tools than broadcast industries, but they involve a similar set of actors with similar agendas. To put it simply, just as the exploitation and regulation of electromagnetic carrier waves created communications industries a century ago, the crystallization of standards around the *n*-way possible modalities of knowledge production in a digital, networked context is fundamental to the consolidation of industrial and political power in the present day.

Although we credit ubiquitous computational analysis as a catalyst for the carrier wave principle, predigital precursors abound. In fields ranging from police work to theology to natural and social sciences, practitioners have frequently reexamined existing corpuses—evidence kits, ancient libraries, and archaeological artifacts, for instance—to seek secondary and tertiary layers of information that may add to, or conflict with, the original interpretive paradigm. Frequently, the innovations contributing and/or resulting from these reinvestigations (e.g., carbon dating, textual exegeses) have been foundational to the development of new theories and fields of scholarship (e.g., paleopathology, social history).

Claude Shannon's work at Bell Labs in the 1940s, leading to the publication of his "mathematical theory of communication" (Shannon, 1948), also proved fundamental to the development of computing as a malleable, efficient information space. In particular, Shannon's quantization of information entropy and its relationship to the emergent bandwidth or carrying capacity of a communications medium proved fundamental to the development of modern telecommunications infrastructure, all of which was incorporated directly into the various forms of digital signal processing and error correction routines that have enabled the Internet, mobile telephones, and other 21st-century communication networks. Shannon's premise, which takes the noise signature (inherent entropy) of a medium as a given, gave computer scientists a powerful framework for improving the speed and accuracy of a communications technology using that medium.

Our argument builds on these foundations, emphasizing the role of computation in expanding the scope, speed, and scale of knowledge production (Hilbert & López, 2011) in a way that qualitatively changes the social and cultural role of information.

While we propose the carrier wave principle as a new theoretical formulation regarding the relationship between sociotechnical artifacts and cultural meanings, our analysis draws heavily from several branches of research and scholarship, including media studies, information science, cultural studies, STS, and critical data studies. Next, we briefly review some relevant themes among these disparate scholarly strands before weaving them together to explore the ramifications of the carrier wave principle in practice.

Encoding Media, Decoding Messages

A central aspect of the carrier wave principle is its reinvestigation of one of the foundational conceits of communication theory: the distinction between what are typically referred to as *media* and *content*. Traditional communication scholarship treated communications platforms and the messages they carry as two distinct and discrete elements of the communication process. In Lasswell's (1948) oft-quoted formulation, all communication may best be described by answering the following compound question: "Who says what, in which channel, to whom, with what effect?" (p. 117).

Of course, this model of communication has been problematized by scholars almost from the instant it was proposed. McLuhan (1994) famously argues that "the medium is the message" (p. 7)—more precisely, that media shape and constrain the messages they carry and the experiences of the communicants who engage with them in ways that are themselves communicative. Writing a few decades later, Carey (2008) argues that Lasswell's "transmission view" overlooks another important aspect of communication, namely, its cultural dimensions. Although Carey does not share McLuhan's interest in blurring the lines between medium and content, his "ritual view of communication" (p. 12) holds that the social structures and practices surrounding the act of information sharing often have greater communicative capacity than the information itself.

Birmingham School scholars such as Hall (1980) and McRobbie (1990) import articulation theory from sociology to cultural studies, helping to further transform the field "from a model of communication . . . to a theory of contexts" (Grossberg, 1993; quoted in Slack, 1996, p. 113). In an explicitly political analog to Carey's (2008) argument, they demonstrate that "active audiences" are not merely interpreting cultural artifacts independently of the intentions of creators, but are deliberately resisting and negotiating with hegemonic social institutions through the act of "decoding" mass mediated texts. Any given text has multiple potential meanings, they argue, and active audiences, especially within a subcultural context, work to "exploit its polysemic values" (Hall, 1980, p. 169).

This analysis has a parallel in STS, which treats all sociotechnical artifacts in much the same way that the Birmingham School scholars treat media texts: as nexuses of power whose contours and patterns of cultural adoption reflect the interplay of the various social stakeholders involved in their production and reception (Bijker & Law, 1992). Actor–network theory (Latour, 1996) goes a step further, arguing that "the gap in between the text and the context" (p. 378) does not exist, and "extending" semiotic analysis beyond cultural texts to "any assemblage of heterogeneous entities," (p. 374) including science and technology.

These perspectives have gained increasing traction in media studies and communication studies in recent years. An excellent example is Sterne's (2012) recent work on "format theory." He adopts this approach in his social and industrial history of the MP3 format, demonstrating that the engineering decisions that went into the codec (uncoincidentally, a contraction of coder–decoder), as well as the commercial and cultural decisions that led to its widespread diffusion, were rooted in fundamentally value-laden notions of what constitutes legitimate music, idealized performers, and privileged listeners. Along similar lines, but using different theoretical foundations and methodologies, Balsamo (2018) examines the digitization of a tactile work of activist art (the AIDS quilt) to show how "forms of culture are literally held in place by numerous organizations, institutions, and social practices, historically rooted and ideologically reproduced at every turn" (p. 150), privileging hegemonic modes of knowledge production and technological adoption while precluding more resistant forms of engagement.

The carrier wave principle reflects and extends this set of scholarly concerns. Like McLuhan (1994) and the STS and actor–network theory scholars, we see the affordances of media platforms—and the assemblages of actants that surround, compose, and perpetuate them—as integral to the nature of the messages they carry. And, like Carey (2008) and the Birmingham School scholars, we see active audiences as integral to the interpretation of those messages. Our premise puts these two dynamics into dialogue, by arguing that an underappreciated dimension of audience agency is not merely choosing among polysemous readings of a given text, but rather interpreting a text through the *n*-way affordances of its sociotechnical infrastructure. To put it another way, audiences may exercise agency not only by assigning new significations to mediated texts, but also by using the textual artifacts as a site to investigate (and, potentially, to critique and surveil) the circumstances of production.

On the other hand, to echo and extend Balsamo's (2018) argument, because these techniques frequently require expertise and resources associated with advanced computational analysis, as well as the institutional leverage to build consensus around a set of standards, the ability to produce new knowledge from sociotechnical artifacts is restricted disproportionately to those who already wield a degree of power. In fact, in some cases, tacit or explicit coordination between the engineers of a platform and the hegemonic institutions that subsidize or support it may serve to exploit the carrier wave principle in ways that directly undermine user agency and privacy. For instance, many commercial printers use invisible ink to encode details about their users directly onto the pages they print without their knowledge or consent. These affordances have been exploited by law enforcement and other institutional powers to hold individuals accountable for what would otherwise have been anonymous forms of information sharing. One notable recent example is the American government whistleblower Reality Winner, who unwittingly included metadata that could be used to identify her, such as her printer's model, serial number, and time of printing, on the top-secret paper documents she leaked to the news media (Collins, 2017).

Thus, although the carrier wave principle offers some promise of resistant or liberatory potential for marginalized or repressed actors and communities, it may also be exploited to strengthen a hegemonic actor's dominant discursive position. Our principle holds that "medium" and "message" are positional rather than absolute designations, and that the power to encode and decode—and to designate one assemblage as a "carrier" for another—is itself an act of power.

Authorship and Identity

Although the carrier wave principle draws on longstanding scholarly debates about the nature of audiences and reception, it also requires us to rethink the circumstances of production, specifically the concept of *authorship* and the definition of a cultural *work*. Can an author be credited for work that she did not intend to communicate? Can we ever fully understand, let alone evaluate, a work if we cannot confidently say we have extracted all of the information it may contain? How should we balance the intentional versus unintentional communicative aspects of a work in trying to understand the culture and identity of the person or people who created it?

The modern concept of authorship has been linked with the construction of identity since its first emergence during the Renaissance (Baxandall, 1988). During this era, cultural works began to be evaluated not merely for the quality of their materials, or even for the skill evident in their construction, but as evidence of an artist's unique vision and interiority. This change, as Woodmansee (1984) and Decherney (2013) argue, was not merely an update to the philosophy of art: It was the dawn of a new, humanistic approach to understanding the operation of culture. The birth of the modern author was the birth of the modern individual, and therefore integral to the modern social order. This syllogism was acknowledged by contemporary philosophers, as well: As Thomas Hobbes argued in 1651 in his book *Leviathan*, "He that owneth his words and actions, is the AUTHOR" (2012, Chapter 16, para. 4).

Yet, this conceit has also been questioned and challenged as long as it has existed. Even the earliest works of modern literature, such as *Don Quixote* and *Tristram Shandy*, actively play with the concept of authorship and creative authority. By the 20th century, works exploring what Barthes (1977) refers to as "the death of the author" had become virtually synonymous with avant-garde experimentation, from the collage techniques of Hannah Höch to the Dadaism of Marcel Duchamp to the nonlinear narratives of such authors as James Joyce and Brion Gysin to the *musique concrète* of composers such as John Cage and Pierre Henry. At the same time, postmodern literary criticism increasingly sought to deconstruct what Foucault (1977) calls the "author-function" (p. 125), and to demonstrate that it was both necessitated by the industrialization of cultural production (exemplified by the printing press) and necessary to the production of the modern Western state (Kittler, 2015).

These critiques led to a reinvestigation of the text as a communicative artifact. Eco (1989) argues that all works are open to continuous reinterpretation, and that the presumed interactivity between reader and text must always be a fundamental aspect of its meaning. Similarly, Gross (1985), working with Sol Worth, proposes a distinction between "natural" events, which are not perceived to be inherently communicative, and "symbolic" ones, which are. As they argue, this distinction does not inhere in the event or object itself, but is entirely reliant on the circumstances of reception. In Gross's words, "all mediated events are to some degree symbolic" (p. 10). In other words, the cultural definition of a "natural" event, free of authorial intent, is a conceit that varies widely over time and space.

The contemporary era of digital media has added new twists to this continuing dynamic. As Internet cultural scholars ranging from Gunkel (2016) to Miltner (2014) to Sinnreich (2010) chronicle in recent work, such digital cultural forms as memes, mashups, and remixes introduce new challenges to post-Romantic conceptions of authorship, requiring us to rethink how identity is established and expressed in the era of digital networked communications. Along parallel lines, law scholars such as Bridy (2012) and Kaminski (2017) explore the implications of artificial intelligence for our legal conception of authorship; for instance, if a piece of computer software algorithmically generates a visual image, does it warrant copyright protection? If so, for whom?

The carrier wave principle suggests an additional process by which digital media and networked communications further complicate the relationship between authorship and identity. While collective online creativity and algorithmic production problematize the premise of authorship as the act of a discrete and unique individual, our principle shows that even a sole author cannot necessarily "own her works and actions," as Hobbes (2012) might say, because we can never anticipate the *n*-way variety of knowledge that may be derived from them in the future.

Even this article, which was written collaboratively by two authors, in dialogue with peer reviewers and journal editors, and published in the form of a PDF produced by the journal, has the capacity to serve as the basis for knowledge produced by third parties about the authors themselves. It is not merely that text such as this may be "mined" for evidence regarding our political ideologies, implicit biases, and cultural values (Chen, Fraiberger, Moakler, & Provost, 2017; Magua et al., 2017) or for metadata embedded in the digital file, but more significantly, it may be used in conjunction with other data sets (including our social media profiles, our broader written corpuses, or even those of our professional and social peers) to develop conclusions about us and our work that bear little relation to the manifest content of the article itself. It is ultimately irrelevant whether the knowledge produced via this process is "true" in an objective or essential sense. Our point is that these new regimes of knowledge production, and the standards that emerge around them, are themselves constituent of new technosocial relations, and may be used by third parties to exert power over us or over others.

In light of this potentiality, and given the argument that "authorship" has never signified anything beyond a presumption of authority regarding the meanings derived from a text, to what degree can we justifiably call ourselves the authors of this article? The more of the *n*-way potential meanings that are ultimately produced, the less authority we exert, and the less applicable that title becomes. This point is not merely rhetorical or "academic" in nature; the global intellectual property system is founded on the premise of individual authorship, and innumerable economic, technical, and institutional systems rely on a similarly unitary vision of cultural expression (Sinnreich, 2019).

Privacy and Surveillance

Another consequence of the carrier wave principle is the challenge it poses to our expectations of privacy, and the opportunities it suggests for state, commercial, and/or criminal surveillance. Like the notions of authorship and audience discussed above, the concept of privacy—always a fluid and contingent value (B. Moore, 2018; Westin, 1967)—has been thrust to the forefront of public consciousness and debate in the wake of digital media's disruptions to our communication practices and technologies. As Papacharissi (2010) argues, it is fast becoming a "luxury commodity" (para. 6), available only to elites with the resources and expertise to prevent their personal data from spreading across networks and markets.

Privacy is not solely conceptualized as a personal "commodity," however. Scholars such as Andrejevic (2002) and Balkin (2008) write extensively about the role of new technologies in supporting the rise of the "surveillance state," and Zuboff (2015) has been instrumental in popularizing the critique of "surveillance capitalism," parallel institutional processes in which individual and collective identity and sovereignty are circumscribed by the voracious data collection practices of state and commercial actors. Nissenbaum's (2004) concept of "contextual integrity" further complicates the definition of privacy, arguing that the de- and recontextualization of data by surveillants poses as much of a threat as its collection and dissemination. And nearly all recent scholarship on the subject references Foucault's (1995) premise of "panopticism," based on Bentham's infamous architecture for a surveillance-based prison, which posits that the production of knowledge through surveillance serves as a broad organizing principle for social power relations, rather than a challenge that may be reduced to a classic "two body problem." As these critiques suggest, the precipitous rise of data collection in our social environment does not merely pose an obstacle to the exercise of free speech, free thought, and free agency, but fundamentally undermines the legitimacy of the concepts themselves, by requiring citizens and communities to naturalize and internalize surveillance by powerful and unaccountable institutions.

Yet, despite (or in response to) these critiques, scholars across a range of disciplines have sought to identify spaces of agency with respect to new surveillance practices and architectures. Marwick and boyd (2014) argue that surveilled communities engage in "networked privacy," a state of relations in which "shared social norms and social ties" (p. 1064) serve as a bulwark against the incursions of surveillants. Similarly, Bossewitch and Sinnreich (2013) argue that, although we can no longer reasonably expect personal data collected by institutions to decay—heralding an era called "the end of forgetting"—individuals and communities may still exercise agency through tactical approaches to the production and collection of data, thus shaping the net "information flux" of a communications system. And Lingel (2019) theorizes extensively the politics of negotiated visibility, arguing, for instance, that countersurveillance among queer communities online amounts to a form of "dazzle camouflage."

The carrier wave principle aims to intervene in this scholarly conversation, and in the public awareness of surveillance and the potential for its mitigation, by providing a broadly applicable framework for understanding one of the principal vectors for the dissemination and collection of potentially sensitive data. Although much of the public debate has centered on the distinction between *data* and *metadata* (already a somewhat spurious dichotomy when it comes to analyzing the social consequences of data collection, as Schneier [2014] argues), we argue that the manifest data contained in both corpuses are dwarfed by the *n*-way varieties of knowledge that may be produced from each.

For instance, the audio of an intercepted phone call may yield immediate data regarding the subject of a given interlocutor's conversations, but over time, further analyses of these recordings may yield information about the subject's medical condition, about her material environment, or about additional conversations taking place in the space around her (Krouse, 2019). By the same token, that same interlocutor's phone records (the sought-after metadata) may provide immediate details about her network of contacts or the specific times, durations, and locations of her interactions with them, but further analyses of these logs may produce additional knowledge, such as the phone company's technological, structural, and administrative features, or the target user's unconscious cultural biases and social preferences.

The Carrier Wave Principle in Context

In the introduction, we cited a handful of seemingly disconnected case studies—each of which, we argue, exemplifies the carrier wave principle in its own way. For the remainder of this article, we attempt to document some real-world implications of the principle a bit more methodically. Although a comprehensive catalog of every potential implication is beyond our present scope, we hope this review will lay the groundwork for future research and investigation.

Squeezing Data From a Stone

Above, we alluded to the study in which researchers used high-definition videography, in conjunction with computational analysis, to resynthesize the sound waves of human speech based on the microscopic vibrations on a bag of potato chips. This technique, which is called "Eulerian video magnification," has a far broader range of potential forensic uses, including inferring the vector of an object's motion from still images, the flow of blood through the capillary veins in a person's face from a selfie, and the material properties of a textile from a short video clip (Wadhwa et al., 2016). Similarly, new lighting detection and range technology (LIDAR) is being used by law enforcement to capture three-dimensional models of crime scenes for the purpose of reconstructing the crimes in question (Agosto, Ajmar, Boccardo, Tonolo, & Lingua, 2008; Barazzetti et al., 2012).

Along parallel lines, a relatively new species of machine learning algorithms called "generative adversarial networks" (GANs) has been used successfully to infer missing data from existing data sets, with applications ranging from creating high-resolution versions of low-resolution images (Ledig et al., 2017) to assessing the dimensions of a three-dimensional object from a two-dimensional image (Wu, Zhang, Xue, Freeman, & Tenenbaum, 2016).

These two varieties of computational analysis are very different: Eulerian video magnification and LIDAR modeling amplify or preserve hidden data in a cultural artifact to make it legible, and GANs extrapolate missing data from their context. Yet, from a social and cultural standpoint, they both have similar implications: The boundless archive of photos, videos, texts, sound recordings, and other media assets in libraries, homes, and computer servers around the globe may be mined, both singly and collectively, to generate new modalities of knowledge production that were not assumed possible when they were first captured and stored.

When this type of sociotechnical analysis was predicted in speculative fiction, such as the "Esper" device in Ridley Scott's *Blade Runner* (1982), it was widely viewed by information scientists and media studies scholars as a "fallacy" (Manghani, 2013, p. 153) because the existing resolution of an image or work was understood as the upper boundary for retrievable information. That assumption itself is now revealed as fallacious; as the carrier wave principle argues, any perceived "upper boundary" is a contingent limitation, imposed by a temporary state of technosocial relations, rather than a fixed attribute of a cultural artifact's *n*-way information layers. This does not necessarily mean that the knowledge produced via such techniques is either infinite or accurate: Under the new conditions of ubiquitous computation, the upper limit of knowledge production is primarily a social and epistemological challenge rather than a procedural or technological one.

What are the implications of Esper-style technology in institutional hands today, and (presumably) in the hands of the general public in the not-so-distant future? One can easily imagine socially beneficial effects, such as a research project reconstructing the sonic environments of early silent film or even efforts to make history more accessible via augmented documentary footage, such as Peter Jackson's *They Shall Not Grow Old* (2018). However, it is just as plausible to imagine this technology applied to the massive archive of photos and videos uploaded to social media platforms, and used by commercial entities to commodify customer data, by states for warrantless policing, and by criminal enterprises for blackmail, extortion, identity theft, or character assassination. The interpersonal dimensions of these capacities are also problematic: When we "share" snapshots of our lives with friends and family via commercial platforms, what else may we reveal over the longer term, once third parties can "Esper" their way through those photos and videos?

It is important to acknowledge that, no matter how sophisticated GANs or similar algorithms become, there are always bound to be instances in which the data they add through extrapolation are erroneous, and therefore risk distorting the knowledge produced through this process, or worse, providing a mechanism for opportunistic actors to legitimize false or misleading information. This may undermine socially agreed upon factuality, potentially exacerbating existing power differentials between those who possess the authority and technological capacity to generate such data and those who do not. Furthermore, as these tools become increasingly commonplace, their conclusions will become more embedded in the operational regimes of social institutions such as schools, financial services, and health care providers, increasing the gravity of any errors or biases they introduce. Lastly, as GANs become increasingly sophisticated, it is likely that the data they infer will become integrated ever more seamlessly into the original data sets, making it more difficult to identify errors and biases, and to challenge the social and political frameworks that arise from them.

Informatic Subjectivity

It has long been theorized in the social sciences that our subjectivities and epistemologies—our sense of who and what we are, the nature of our relationships to one another, and our models for making sense of the world around us—are shaped and circumscribed by the social institutions and power dynamics that surround us (Foucault, 1995; Longino, 1993). Consequently, as scholars across a range of fields have argued, we shape our personae, and orient our self-presentation, around the specificities of our technosocial milieux (Giddens, 1986; Goffman, 1978; Turkle, 2005). In a large and complex society, media play a central role in this process, and therefore, their affordances are integral to how we see ourselves and one another. This can generate a feedback loop in which the idiosyncrasies of those media are exaggerated in the images we present of ourselves and see in others. In McLuhan's (1994) poetic formulation, humans are captivated by the "mirror" of media interfaces until we become "the servomechanism of [our] own extended or repeated image" (p. 41).

More recent research has focused on the role of the Internet and other digital media in shaping our subjectivities and reflecting our self-presentations. Because of their newness, these cultural behaviors are often described via neologisms, such as "selfie" and "blackfishing" (the term itself is a portmanteau of "black" and another neologism, "catfishing"). These new modes of self-presentation have clearly been internalized by many Internet users to a degree that the logic of the networked eye is inscribed onto the physical body. Examples include an uptick in elective plastic surgery so subjects can look better for digital photos, or even match their computer-generated or -augmented avatars (Reaney, 2014; Rees, 2014); "pro-ana" communities on social media, where anorexics encourage one another to continue losing weight through self-imposed starvation (Boero & Pascoe, 2012; Ging & Garvey, 2018); and even cyborgian enhancements such as machine-readable tattoos (Barfield & Williams, 2017; for those who want to increase their data legibility) and surveillance-blocking makeup (Joh, 2013; for those who want to decrease their data legibility).

What these examples share is the dynamic of the "real-time" feedback loop: Users see themselves being seen through the camera of a mobile phone or an environmental surveillance device and alter their self-images and self-presentations accordingly. Yet, the carrier wave principle suggests that, as data subjects become increasingly aware of the less immediate and visible forms of information they produce, they may also begin to adjust their perspectives and personae in a way that anticipates those *n*-way modalities of knowledge production, as well.

We can already see nascent forms of this dynamic in emerging cultural practice. "Quantified self" applications and self-tracking devices such a Fitbit and the Apple Watch have become commonplace in recent years, and have given rise to a firestorm of debate within scholarly circles, between those who decry them as an instrument "data fetishism" and creeping neoliberalism (P. Moore & Robinson, 2016; Morozov, 2013) and those who hail them as emancipatory instruments of self-knowledge and self-determination (Sharon & Zandbergen, 2017)—as well as those, like Crawford, Lingel, and Karppi (2015) and Humphreys (2018), who argue that contemporary digital self-chronicling can best be understood as a new variation on centuries of predigital self-investigation through mechanical and analog media.

Although we are not taking sides in this debate in the present article, we observe that implicit in all of these arguments is the premise that quantified self technology requires its users to see themselves not merely through the lens of a webcam, but through the algorithm's-eye view of data analysis. This is a second-order abstraction, because the end user is adjusting her presentation of self not based on what she sees reflected on the screen, but rather based on what she anticipates might be compiled through the aggregation and synthesis of information about her over time. This is no mere speculation on end users' parts; in fact, a growing number of industries, from higher education (Costello, McNiel, & Binder, 2016) to job placement (Jeske & Schultz, 2016) to insurance (Scism, 2019), are now explicitly telling their customers that the rates and opportunities they are offered will be based, at least in part, on their visible social media activity.

These new modalities of informatic subjectivity (or, as Hong, 2016, calls it, "machinic sensibility") have begun to inscribe themselves into users' bodies as well. It is now a common trope, for instance, for wearers of self-tracking devices to wave their arms as a way of tricking the devices into recording steps walked toward the fulfillment of a daily goal. An entire thread of user commentary on the Fitbit Community website was recently devoted to discussing whether this activity constitutes "cheating"—with mixed responses.[2] In other words, the presence and authority of the algorithmic eye is now so widely recognized that ethical debates regarding the responsibility to yield accurate data have emerged among the general public (Andrejevic, 2014). This phenomenon is exemplary of the carrier wave principle's social implications: The iterative generativity of computational processing has catalyzed rapid shifts in behavior, which in turn require new collective cultural modalities. Much as Schrödinger's cat provided a material visualization of natural phenomena at the subatomic level, these emerging tropes can be understood as a human-scale attempt to make sense of computational processes that can only be inferred through their effects, although never witnessed directly by the people whose lives they transform.

Easter Eggs and Modulated Malware

"Easter eggs"—bits of rogue code hidden within software programs—have been used for purposes ranging from playful (e.g., games hidden in productivity applications) to criminal (e.g., password sniffers hidden in financial applications) nearly since the dawn of computing (Bogost, 2011). Nearly all are created intentionally by their programmers, but many are released without the knowledge or consent of either their publishers or their end users. Many examples of the carrier wave principle in action rely on forensic approaches to reveal *n*-way meanings encoded into media artifacts, but Easter eggs point to another vector: the deliberate multiplex encoding of separate meanings intended for separate audiences. Thus, the process of decoding such artifacts both signifies and reifies group identity affiliation, similar to the subcultural dynamics discussed in Hall (1980) and especially relevant to Marwick and boyd's (2014) concept of "social steganography."

Easter eggs illustrate an important point about software or any medium that may potentially serve as a carrier wave for hidden messages: They are a security risk. To put it simply, because we can never predict how the data we are sharing or accessing may be exploited or interpreted, let alone understand the architectures of the media that carry them, total information security is an unrealistic expectation.

In recent years, the threat of malware (one of the less playful forms of Easter eggs) hidden inside of "benign" apps by malicious actors has become a recurring theme in the news and a part of the popular consciousness (Cimpanu, 2019). However, these stories rarely reveal that, in some cases, malware can serve as a vector for information that even its creators did not plan, and may be used to produce knowledge they could not have anticipated. This is exactly what happened with the infamous Stuxnet worm, which was first discovered in 2010 infecting industrial control systems operated by Siemens (McMillan, 2010). Cybersecurity researchers found that Stuxnet piggy-backed on the Windows operating system, taking advantage of a previously unrecognized vulnerability in its code. Ultimately, however, the episode revealed far more than the existence of the worm. Researchers traced its origins back to American and Israeli government efforts to disrupt Iran's uranium enrichment program, revealing both the program's existence and the coordinated cyber warfare efforts of the United States and Israel to the general public for the first time. In other words, the carrier wave principle applies doubly to the Stuxnet case: Not only was Windows

[2] https://community.fitbit.com/t5/Ionic/Waving-arms-counting-as-steps-what-to-do/td-p/3006844

a carrier for Stuxnet, but Stuxnet was a carrier for highly sensitive political information, all of which ultimately became legible to the general public via media accounts of the incident (Zetter, 2014).

The second part of the Stuxnet story points to an essential consequence of the carrier wave principle: The knowledge produced from a given artifact may be completely decoupled from its original context. The social impact of this decoupled knowledge may be observed in different media, different narratives, and different contexts than the artifact itself, and therefore may not be readily apparent to the people who originally created, used, or interpreted it. This is the case with many cybersecurity threats, which rely on "social engineering," for instance, getting someone to click a link in an e-mail they believe is legitimate, in conjunction with the malicious code buried within the link, for the exploit to work. This was also the case with the recent Cambridge Analytica scandal, in which social media platforms were used maliciously as a carrier wave, both for the collection of data related to millions of individual users and for the targeting of disinformation tailored to the individual vulnerabilities and biases revealed through analyses of those data (Cadwalladr & Graham-Harrison, 2018).

Yet, although social networks are a common, and effective, medium used in conjunction with computer code for the encoding and decoding of hidden messages, they are not the only ones. The 1980s New Wave band Information Society included an audio track on a vinyl record that, when played back through a modem, would generate a plaintext file on the computer at the other end, telling a convoluted story about the band being extorted by the Brazilian government. Similarly, alt rock band Aphex Twin included a track on a 1999 CD that, when played through a spectrograph, would generate nightmarish image files (Weinel, Griffiths, & Cunningham, 2014; Yezpitelok & Cantrell, 2010).

These examples are on the playful end of the Easter egg spectrum, but there are more troubling examples, as well. For instance, researchers recently reported success editing a strand of DNA so that when it is analyzed by a gene-sequencing software on a computer, the resulting data would become self-executing malware attacking the sequencing software itself and ultimately taking over the computer it runs on (Greenberg, 2017). Although this is still a novelty and largely the stuff of speculative fiction (in fact, there was a 1993 episode of the television show *Star Trek: The Next Generation* entitled "The Chase" in which a very similar mechanism served as a crucial plot point), the growing accessibility and power of DNA-editing technologies such as CRISPR (Doudna & Charpentier, 2014) suggest that our own biological code may soon become a viable medium for carrier wave principle phenomena as well.

Conclusion: Second Guessing the Recording Angel

In this article, we have introduced the carrier wave principle, supported it with analysis linking it to several scholarly fields, and offered evidence that it is a widely applicable phenomenon, with far-ranging implications related to our identities, our politics, and our security. We also have argued that its impact will most likely increase precipitously as the catalyzing power of computational processing continues to grow at an exponential rate (Denning & Lewis, 2017). Whereas some cultural artifacts will continue to degrade and become lost to the ages, aided by the "planned obsolescence" of digital media (the recent inadvertent deletion of MySpace's library of millions of songs by independent musicians [Van Sant, 2019] demonstrates how fragile digital archives can be, especially prior to contemporary models of redundancy via "cloud" computing), our principle holds that we cannot reasonably expect data to disappear or anticipate the knowledge that may be derived from them over time.

In fact, the near future likely holds the potential for a highly transformative and disruptive event that will significantly reshape our cultural, economic, and institutional landscape, what some commentators have already dubbed the "quantum apocalypse" (Dolev, 2018). Much of today's Internet traffic is protected by various forms of encryption, so that if it is intercepted by a third party without the decryption key, it will be illegible and inactionable. We rely on this assurance of security for commerce, banking, privacy, identity verification, and innumerable other essential functions in our daily lives, business dealings, and government and military communications. Yet, quantum computing, which has made significant strides in recent years, may have the capacity to easily break such encryption, leaving our Internet traffic as open to investigation as if it had not been encrypted in the first place (Heath, 2016).

Intelligence organizations are taking this possibility very seriously, and are acting both to (a) collect as much encrypted data as possible, in the hopes of decrypting it in the future, and (b) build encrypted communication systems that will be resilient to quantum computers (Johnson, 2019). The result will likely be that, in the nearer term, wealthy and powerful institutions such as national governments and large corporations will have the capacity to unmask and analyze decades of Internet traffic for billions of users. In the longer term, if the social history of technology is any guide, this power will likely be democratized, and much of today's hidden data will be available widely for search, retrieval, and processing to any number of curious investigators.

We must prepare, both in our cultures and our politics, for this eventuality and for the continuing effects of the carrier wave principle as technology and culture continue to coevolve, leaving an ever widening trail of cultural artifacts and digital records in their wake. This need will become ever more dire, as the "Internet of things," cyborgian implants, DNA editing, and other, increasingly intimate and granular forms of data collection and manipulation continue to pervade our individual and collective lives. We must understand, as a society, that nearly everything we do or say in proximity to a networked sensor, including actions and words we are not even aware of, may be archived and searchable for perpetuity.

In Judeo-Christian religions, there is a "recording angel" tasked with tracking every detail of every human's life and weighing our souls in the balance. We are not here suggesting that judgment is the ultimate goal, or even the necessary consequence, of the carrier wave principle as applied to personal data. But a wide range of interested parties, from states to commercial entities to malicious actors, certainly have goals of their own, and there will inevitably be consequences. Above, we described how a futuristic plot device from a television show a quarter century ago is now a technosocial feasibility. Today, such shows as *Westworld* and *Black Mirror* feature plots in which data harvested from social media sites are used to reconstruct artificially intelligent simulations of individual human beings. Although we cannot confidently predict that this will be feasible in another quarter of a century, we cannot rule it out either.

Scenarios such as this raise a final key point: The growing reliance on computational processing as a foundation of knowledge production and social governance makes public oversight and development of best practices for data collection, management, and processing imperative for a functional civil society.

Incomplete or inaccurate data sets can yield incorrect conclusions, leading to potentially dire outcomes. In Terry Gilliam's classic dystopian film *Brazil* (1985), one data error introduced by an insect's carcass falling into a typewriter sets off a deadly and destructive "butterfly effect" chain of events that upturns and threatens the protagonist's life. Today, computer scientists and critical technologists frequently demonstrate the fallibility of our data regimes and their potentially lethal effects (such as the inherent racial biases in computer vision that make self-driving cars more apt to strike dark-skinned pedestrians than light-skinned ones [Samuel, 2019]). This suggests the need for new systems of governance and open discussions among stakeholders to ensure that these consequences are mitigated within frameworks that balance our desire for knowledge with an acknowledgment of the potential risks.

If there is one thing we can predict confidently based on our analysis, it is that our media will have meanings and applications in future societies that far exceed our understanding or anticipation today. Yet, we can play a more proactive role in shaping that future by being more deliberate now about what kinds of media we build, what kinds of messages we send, and what kinds of laws and ethics we embrace to guide their development and deployment. We believe it is essential to recognize, and account for, the carrier wave principle when crafting those technologies, messages, laws, and ethics, and to think beyond the narrow range of "use cases" envisioned in today's board rooms, laboratories, and policy institutions.

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Motivated Circulation: How Misinformation and Ideological Alignment Influence the Circulation of Political Content

BENJAMIN BOWYER
JOSEPH KAHNE
University of California at Riverside, USA

This article investigates the factors that shape the circulation of political content on social media. We analyze an experiment embedded within a nationally representative survey of U.S. youth that randomly assigned participants to see a short post designed to resemble content that circulates through social media. The post was experimentally manipulated to vary in both its ideology and whether it contained factually inaccurate information. In general, we found that participants' intentions to circulate a post on social media were strongly influenced by whether that post aligned with their ideology, but not by whether it contained misinformation. The relative effects of ideological alignment and misinformation were found to differ according to participants' level of political knowledge and engagement, indicating that different groups of young people are susceptible to particular kinds of misinformation.

Keywords: misinformation, social media, motivated reasoning, survey experiment

The ecology of political news has been transformed by technologies that allow individual users, who previously had been largely passive consumers, to play an important role in the creation and spread of information. Social media, in particular, allow individuals to take on a more participatory role that creates the potential to democratize the flow of information by moving from hierarchical modes of broadcast distribution to decentralized peer-to-peer networks. In a short period of time, social media have become a key source of political information: By 2017, two thirds of U.S. adults reported receiving at least some news from social media platforms (Pew Research Center, 2017) and social media are now the most common source of news for young people ages 13–18 (Robb, 2017). However, the bypassing of the gatekeeping role traditionally performed by news organizations has exposed democracy to a new set of challenges. For example, a recent study indicates that false news stories tend to diffuse more broadly and quickly on Twitter than stories verified as true (Vosoughi, Roy, & Aral, 2018). Indeed, the proliferation of "fake news" or misinformation, especially that motivated by political goals, has been increasingly recognized by the public, news media, and academics alike as a threat to democratic institutions (e.g., Allcott & Gentzkow, 2017; Hochschild & Einstein, 2015; Kavanagh & Rich, 2018; Knight Foundation, 2018; Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012).

Benjamin Bowyer: bbowyer@berkeley.edu
Joseph Kahne: jkahne@ucr.edu
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Democratic theorists have long argued that debate and dialogue enable communities to come to understandings, question beliefs and the rationales for varied policies, and, ideally, reach more informed opinions and ultimately responsive or effective policies (Hochschild & Einstein, 2015; Mill, 1859/1956). The spread of misinformation interrupts and undermines this process in problematic ways. The circulation of inaccurate "information" prevents dialogue across difference from becoming a means of reaching common understandings or identifying new or better policy options. Especially in an era of heightened partisan polarization, this may well increase conflict and diminish the very legitimacy of democratic governance (Hochschild & Einstein, 2015). Consequently, understanding the forces that motivate the circulation of misinformation and whether there are protective factors that limit its spread are of paramount importance.

To respond to this need, in this article, we investigate factors that influence whether individuals choose to circulate political content on social media. Specifically, we report the results of an experiment embedded within a nationally representative survey of youth in the United States. Participants were randomly assigned to see a short post, designed to resemble content that circulates through social media, that expressed an opinion on income redistribution. The post was experimentally manipulated to vary in both its ideology and whether it contained a factual inaccuracy. This manipulation allowed us to compare the relative effects of ideological alignment and misinformation on participants' stated intention to circulate the post. This study also investigated individual-level factors that might moderate the effects of ideological alignment or misinformation on the likelihood of circulating political content online. As a result, our findings provide insight into the factors that encourage the spread of factually inaccurate content.

Misinformation, Motivated Reasoning, and the Circulation of Political Content

In the present media environment, individuals are no longer principally passive consumers of political news, but increasingly play prominent roles in the production and circulation of political content through social media. The rise of "spreadable media" (Jenkins, Ford, & Green, 2013) has put people who used to compose "the audience" in a position to exercise influence over which news and opinions are seen by their social networks. Throughout this article, we refer to this process as *circulation*: Through acts such as sharing YouTube videos, retweeting a microblog, and "liking" a Facebook post, social media enable individuals to circumvent the roles traditionally played by gatekeepers, such as newspaper editors or television producers.[1] These practices have become especially commonplace among youth. According to data from the 2013 Youth and Participatory Politics Survey, 30% of U.S. residents between 15 and 27 years of age reported having forwarded, re-tweeted or posted someone else's article, blog, picture or video about a political campaign, candidate or issue in the previous year.

These practices provide voice, but they can have deleterious consequences in the presence of partisan biases and widespread misinformation. Homophilous online networks, combined with highly partisan information and news outlets, the ease and speed with which information and perspectives can spread in the digital age, and the diminished ability of gatekeepers to vet varied truth claims all create a

[1] Social media companies often refer to the acts of sharing, "liking," and commenting as "engagements." However, we use *circulation* to avoid confusion with the way the term *political engagement* is used in the academic literature to refer to participation in political activities or psychological attentiveness to politics.

context in which a great deal of political misinformation circulates online (Lewandowsky et al., 2012). The diffusion of the gatekeeping function means that the continued circulation of misinformation depends in large part on the individual decisions of the people who receive these messages and choose whether to share them with their own networks of friends and followers.

Of critical importance is whether these decisions are governed primarily by individuals' political predispositions or reflect a commitment to discern between fact and fiction. When individuals process new information, they may be motivated by accuracy goals, whereby they strive to come a correct conclusion, or by directional goals, whereby they try to justify conclusions that are consistent with their prior beliefs (Kunda, 1990). Which of these motivations is at work profoundly affects how the information will be received. When motivated by accuracy goals, "[individuals] expend more cognitive effort on issue-related reasoning, attend to relevant information more carefully, and process it more deeply, often using more complex rules" (Kunda, 1990, p. 481). On the other hand, when motivated by directional goals, individuals tend to accept uncritically information that is consistent with their prior beliefs and subject contrary information to greater scrutiny (Ditto, Scepansky, Munro, Apanovitch, & Lockhart, 1998).

Directional motivation often shapes the way that political information is processed. The effect of partisan motivation in the processing of political information has been shown to lead individuals to seek out information that aligns with their preexisting views, to work to dismiss perspectives that run counter to their prior beliefs, and to rate arguments that are consistent with their beliefs as stronger (Taber & Lodge, 2006). There is considerable evidence that similar biases affect individuals' decisions to circulate political content through social media. Survey research examining why individuals choose to circulate content demonstrates a consistent bias against the circulation of counterattitudinal content (i.e., material that contradicts individuals' preexisting beliefs; Arendt, Steindl, & Kümpel, 2016; Garrett, 2011; Weeks, Lane, Kim, Lee, & Kwak, 2017).

There is a debate in the literature on the degree to which these biases reduce individuals' exposure to divergent views (e.g., Bakshy, Messing, & Adamic, 2015; Gentzkow & Shapiro, 2011), and partisan motivation can be especially problematic in the circulation of misinformation. If individuals' decisions to circulate political "information" online are governed only by whether the message aligns with their prior views, irrespective of its accuracy, then there is little to stop the spread of misinformation. Indeed, studies of the spread of content on platforms such as Twitter and Facebook indicate that these networks enable false political information to spread at least as fast and far as does factually accurate information (Del Vicario et al., 2016; Schmidt et al., 2017; Shin, Jian, Driscoll, & Bar, 2016). At the same time, findings of partisan differences in responding to new political information do not necessarily imply that directional motivation outweighs accuracy motivation. As Druckman and McGrath (2019) argue, just because partisans might vary in whether they consider a new piece of information to be accurate does not mean that they are driven by partisan goals and not accuracy goals. For example, a liberal and a conservative equally motivated to be accurate could come to different conclusions regarding the accuracy of a new piece of information because they differ in their assessments of the source's credibility.

With respect to directional motivation, previous research suggests that the degree of bias in favor of ideologically aligned content is greatest among individuals who are most informed and care most deeply about political issues. Taber and Lodge's (2006) experiments demonstrate that political knowledge is associated with greater bias in favor of arguments consistent with individuals' prior attitudes. In particular, their findings suggest that knowledge enables individuals to subject contradictory arguments to greater critical scrutiny. They also find that the bias in favor on attitudinally congruent arguments is greatest for those with the strongest prior attitudes, as those who care most about an issue are most resistant to modifying their beliefs. Consistent with the former finding, a survey experiment by Kahne and Bowyer (2017) indicated that highly knowledgeable individuals are more likely than others to say that political messages that align with their prior beliefs are accurate and that messages they disagree with are not accurate (irrespective of the messages' actual accuracy). Similarly, Brannon, Tagler, and Eagly (2007) found that attitude strength is positively associated with the tendency to seek out information that aligns with one's prior attitudes. Consequently, our expectation is that the effect of directional motivated reasoning on the likelihood of circulating political content will be strongest among those who are the most engaged with and informed about politics.

At the same time, politically informed and engaged individuals might also be expected to be best prepared to identify political misinformation. Political knowledge has been found to be closely related to awareness of current events (Price & Zaller, 1993) and is negatively related to holding misperceptions of political facts (Nyhan & Reifler, 2010). Similarly, "issue publics" that are particularly well informed about certain issues (Converse, 1964; Krosnick, 1990) may be enabled by new media in acquiring information about their topics of interest, which further enhances their domain-specific knowledge (Kim, 2009). Most directly, Pennycook and Rand (2019) present a series of experiments in which participants were asked to assess the accuracy of headlines that were either factually accurate or entirely false. They found that individuals who scored higher on a test of analytic thinking tended to rate the real stories as more accurate and the fake stories as less accurate than other participants, irrespective of whether the stories were consistent with their political ideology. Thus, there is reason to expect that more politically informed and engaged individuals, in general, will be less susceptible to circulate misinformation, even when it aligns with their prior beliefs.

Method

To test how these factors influence the circulation of political content, we drew on an experiment that was embedded within the 2013 Youth and Participatory Politics Survey. The survey was taken by 2,343 individuals between 15 and 27 years of age in the United States. It was administered by GfK in English- and Spanish-language versions, either online or by telephone, and oversampled African American, Latino, and Asian American youth. This study analyzed data from those who took the survey online and in English.[2]

Experimental Design

Survey participants were shown an experimental treatment that was crafted to resemble political memes that circulate through social media. Specifically, they were randomly assigned to see a "post" that combined a political cartoon with a short textual comment that addressed tax policy and economic inequality.

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[2] Full details about the survey and the sampling procedures can be found on the Inter-university Consortium for Political and Social Research's Civic Leads website: https://www.icpsr.umich.edu/icpsrweb/civicleads/studies/36849.

As displayed in Figure 1, these posts were manipulated to vary in both political ideology[3] and whether they contained misinformation. Those in Groups A and B were shown a comment that reflected a liberal perspective regarding tax rates on the wealthy (the second sentence of the comment read, "Their taxes should go up!"). Participants in Groups C and D read a comment that presented a conservative position on taxes (the second sentence read, "Tax rates shouldn't go up!").

<table>
<tr><th></th><th>Subjective Condition</th><th>Misinformative Condition</th></tr>
<tr><td>Liberal</td><td>Group A (n = 269)


The rich can afford to pay higher taxes. Their taxes should go up!</td><td>Group B (n = 204)


90% of the rich don't pay any taxes at all. Their taxes should go up!</td></tr>
<tr><td>Conservative</td><td>Group C (n = 207)


Successful Americans are already paying enough in taxes. Tax rates shouldn't go up!</td><td>Group D (n = 223)


1% of Americans pay 90% of all taxes. Tax rates shouldn't go up!</td></tr>
</table>

Figure 1. "Posts" seen by experimental groups by ideology and presence of misinformation.

[3] Throughout this article, we use the term *ideology* rather narrowly to refer to positions on the question of the role of the government in the economy.

In total, 1,239 survey respondents were assigned to one of these four conditions. An additional experimental manipulation that varied the graphic included in the post is not analyzed here.[4] A further group of respondents was assigned to a control group that did not view any posts and are also excluded from this analysis. Finally, as described below, participants who could not be categorized as liberal or conservative were excluded, meaning that the responses of 903 participants were included in the data analyses.

Dependent and Independent Variables

Intention to Circulate

Survey participants' intention to circulate the post was the primary dependent variable for this study. Immediately after they were shown the post, respondents were asked whether they agreed with three statements about the post: "I would forward, retweet, share, or 'like,' this"; "I think the post makes a good point"; and "I think this comment is accurate." Participants were given four response options: *strongly disagree*, *disagree*, *agree*, and *strongly agree*. In the following analyses, we combined *agree* and *strongly agree* responses to the first statement to indicate the intention to circulate the post.[5]

Although the survey experiment did not measure participants' actual behavior on social media and only their self-reported intention, this intention is strongly related to other measures of sharing on social media. In particular, the intention to recirculate the experimental post was strongly correlated with participants' answers to a question asked elsewhere in the survey about the frequency with which they "forwarded, retweeted, or posted someone else's article, blog, picture or video about a political campaign, candidate or issue." Among respondents who said that they never recirculated political content on social media (64% of the sample), only 24% agreed that they would recirculate the post that they were shown in the experiment. Among respondents who stated they recirculated political content at least once a week (8% of the sample), 59% said that they would recirculate the post.

Ideological Alignment

We assessed the alignment between a given post and a respondent's prior beliefs by taking into account both the policy position embedded in the post and the respondent's answer to a question regarding the role that government should play in working to reduce income inequality. Prior to the experimental treatment, respondents were asked to situate themselves on a continuum of perspectives on governmental actions to reduce income inequality that ranged from 1 (*the government ought to reduce the income differences between rich and poor*) to 7 (*the government should not concern itself with reducing this income difference between the rich and the poor*). This variable was recoded in combination with the ideology of the post to which the participant was assigned to create a dummy variable that indicated whether the post was ideologically aligned with the participant's views. Participants who placed themselves on the liberal end of the scale (points 1–3, n = 567) were coded as "aligned" if they were

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[4] A description of this condition is available from the authors.

[5] The Appendix presents regression models that used the original 4-point scale. The results of these ordered logit models were substantively similar to the findings for the dichotomous variable presented.

assigned to Groups A or B and as "unaligned" if they were assigned to Groups C or D. Participants who placed themselves at the conservative end of the attitude scale (points 5–7, *n* = 336) were coded as "unaligned" if they were assigned to Groups A or B and as "aligned" if they were assigned to Groups C or D. Participants who placed themselves at the midpoint of the scale (4, *n* = 317) were excluded from the analyses, as the hypotheses regarding the effects of ideological alignment did not apply to individuals who were ambivalent on the issue.

Political Knowledge

We assessed political knowledge by asking respondents three factual questions about the American political system. These general knowledge items were drawn from the set of questions that Delli Carpini and Keeter (1996) found provide a reliable and valid measure of general political knowledge and sophistication.[6] Our analyses treated participants who answered two or three items correctly (60% of participants) as "high knowledge" and those who gave fewer than two correct answers as "low knowledge."

Issue Importance

We assessed the salience of the issue through a survey item, which followed immediately after the scale of attitudes toward government's role in reducing income inequality, that asked, "How important is this issue to you personally?" We grouped participants who answered "very important" or "extremely important" (31% of participants) and those who responded "not important at all," "not too important," or "somewhat important."

Online Political Discussion

Two items were used to measure whether and with whom respondents have political discussions online. The first item asked, "How often do you discuss politics online?" We divided participants into two groups: "never" (53% of the participants) and "rarely," "sometimes," or "often." The latter group of respondents was asked the follow-up question, "How often do you discuss politics online with people who do not share your views?" We used this question to distinguish between those who discuss politics only with like-minded people (answers of "never" or "rarely"; 32% of participants) and those who engage in online discussions with people with whom they disagree "sometimes" or "often" (15%).

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[6] The three items included in the 2013 Youth and Participatory Politics Survey asked respondents to identify which party held the majority in the House of Representatives, which institution is responsible for judicial review, and which party is considered more conservative. The 2011 Youth and Participatory Politics Survey included the same three items plus two additional items asking about the majority required for Congress to overturn a presidential veto and which office Joe Biden held. Among the 2011 respondents, the full five-item scale of political knowledge was strongly correlated (r = .92) with the three-item scale used in the 2013 survey. Thus, we are confident that the three-item scale used here was a reliable measure of political knowledge.

Results

We first consider how the characteristics of the post influenced participants' intentions to circulate political content. Figure 2 displays the proportion of respondents who agreed that they would circulate the post to which they were exposed across ideological alignment and the presence of misinformation. Ideological alignment had a large effect on the intention to circulate, regardless of whether the post contained misinformation. Averaging across the subjective and misinformative conditions, 42% of participants assigned to an ideologically aligned post agreed that they would forward, retweet, share, or like it, compared with just 24% of those in a counterattitudinal condition. This difference between the pro- and counterattitudinal conditions was statistically significant for both the subjective and misinformative conditions ($p < .01$ for two-tailed t tests).

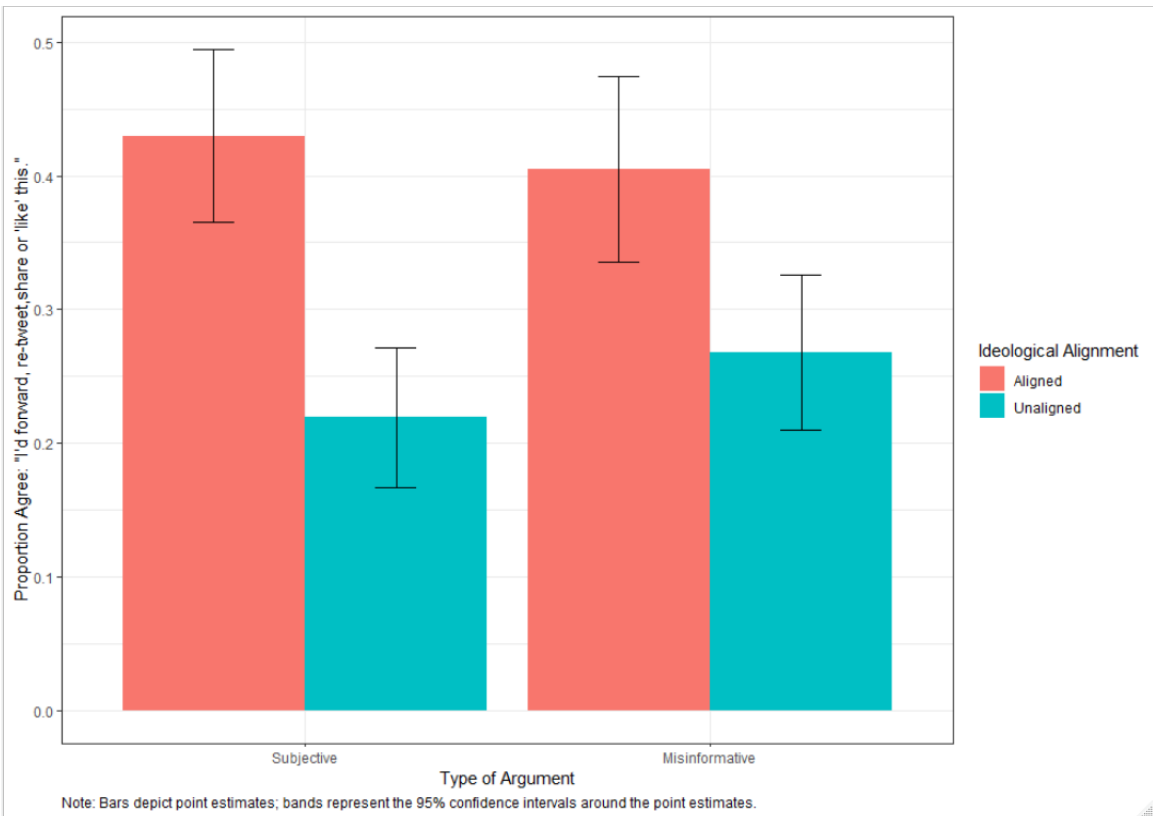

Figure 2. Intention to circulate by ideological alignment and presence of misinformation.

By contrast, the presence of misinformation did not appear to affect the intention to circulate. Averaging across the pro- and counterattitudinal conditions, 32% of participants who were exposed to a subjective condition said that they would circulate the post, compared with 33% of those assigned to a misinformative condition.[7] This difference between the subjective and misinformative conditions was not statistically significant overall (p = .76 for a two-tailed t test) or when examining only proattitudinal conditions (p = .609) or counterattitudinal conditions (p = .222). Overall, then, it appears that the effect of ideological alignment dominated that of the presence of misinformation in individuals' decisions on whether to recirculate political content on social media.

Figure 3 displays how the effects of the experimental conditions varied across participants' level of political knowledge. For relatively knowledgeable participants, we observed a clear polarization based on the ideological alignment of the post. Highly knowledgeable participants were much more likely to say that they would circulate the post if they were assigned to an ideologically aligned post (44% in the subjective conditions and 42% in the misinformative conditions) than if they saw a counterattitudinal post (19% and 16%, respectively, for the subjective and misinformative conditions).[8] However, there was no significant difference between the subjective and misinformative conditions for this group, regardless of the ideological alignment of the post.[9] In essence, political knowledge appeared to serve as a brake that limited the spread of ideologically unaligned content, but it did not seem to inhibit the spread of misinformation that aligned with the individual's prior beliefs.

[7] The 95% confidence interval for the proportion of participants who would circulate a misinformative post was [0.29, 0.38]. For participants assigned to a subjective post, the 95% confidence interval was [0.28, 0.36].
[8] These differences in mean intention to circulate were statistically significant ($p < .001$) regardless of whether t tests are conducted together or separately for the subjective and misinformative conditions.
[9] For high-knowledge participants, the difference in means between the subjective and misinformative conditions was not statistically significant in general (p = .80 for a two-tailed t test), for the proattitudinal conditions (p = .74), or for the counterattitudinal conditions (p = .52).

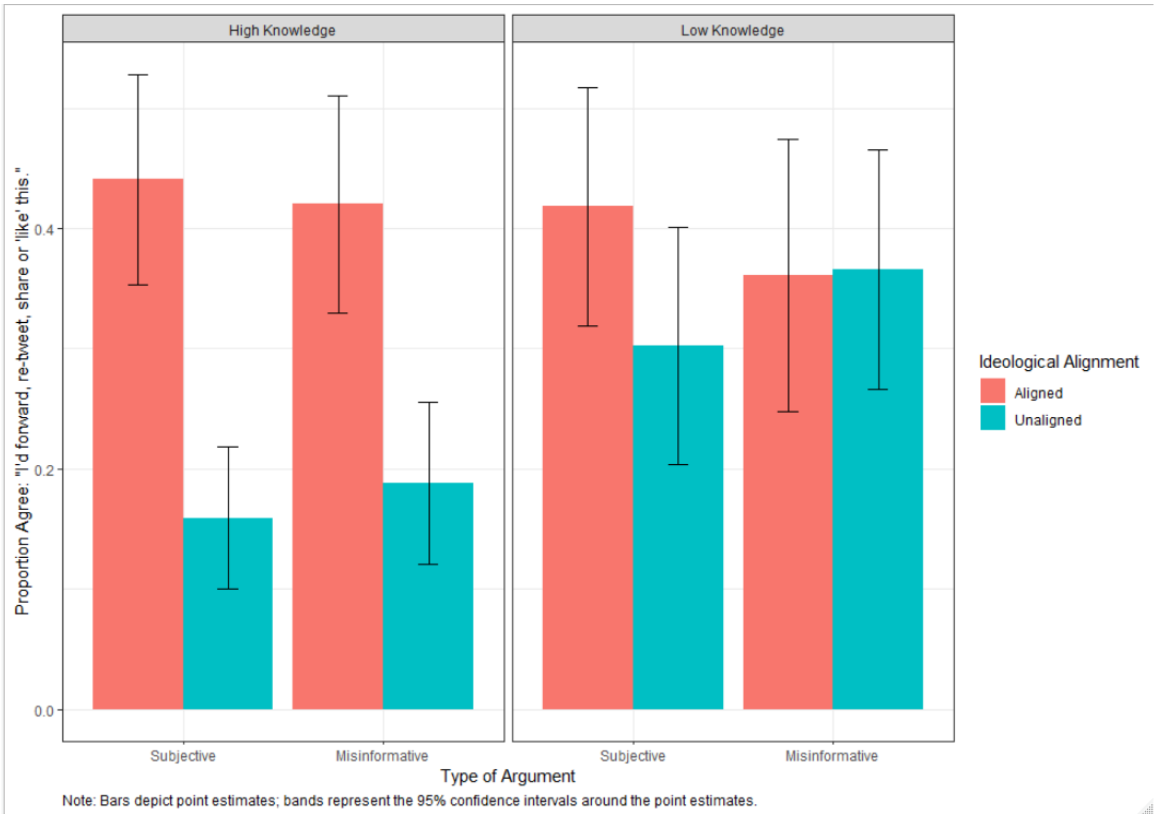

Figure 3. Intention to circulate by ideological alignment, presence of misinformation, and political knowledge.

We observed a different pattern for less knowledgeable participants. In this group, participants were slightly more likely to share an ideologically aligned subjective post (42%) than an unaligned subjective post (30%), although this difference was not quite statistically significant (p = .10 for a two-tailed t test). However, there was no difference across ideological alignment for the misinformative posts: Thirty-six percent of less knowledgeable participants assigned to a proattitudinal misinformative post said that they would circulate it, compared with 37% in a counterattitudinal misinformative condition.[10] The differences between the subjective and misinformative conditions were small and not significant in either the proattitudinal or counterattitudinal conditions.[11] In short, for less knowledgeable respondents, there did not appear to be any more restraint on the spread of misinformation that ran counter to their beliefs than there was on misinformation that was consistent with their prior attitudes.

[10] This difference was not statistically significant (p = .95 for a two-tailed t test).

[11] For low-knowledge participants, the difference in means between the subjective and misinformative conditions was not statistically significant in general (p = .99 for a two-tailed t test), for the proattitudinal conditions (p = .45), or for the counterattitudinal conditions (p = .37).

Figure 4 considers the effects of the experimental manipulations across the amount of importance participants placed on the issue. Unsurprisingly, those participants who were personally interested in the issue were much more likely to say that they would circulate the post (47%) than those who had little interest in taxes and income inequality (26%). Similar to the findings across political knowledge levels, we found that the differences across the conditions varied across the personal importance of the issue. The most interested participants displayed a clear polarization based on the ideological alignment of the post (61% would circulate a proattitudinal post and 34% would circulate a counterattitudinal post), but appeared to make little distinction between the subjective and misinformative posts.[12] Among participants who did not think that the issue was important, those who were assigned to a subjective condition were also more likely to say that they would circulate an ideologically aligned post than an unaligned post (35% vs. 17%).[13] However, this difference was small (30% to 25%) and not significant ($p = .26$) among those exposed to a misinformative condition. Overall, less interested participants were almost equally likely to circulate a subjective post (35%) as a misinformative post (37%).[14]

[12] This difference between the proattitudinal conditions and the counterattitudinal conditions was statistically significant overall ($p < .001$ for a two-tailed t test), as were the tests of the differences among those assigned to a subjective post ($p = .001$) and among those who saw a misinformative post ($p < .001$). The difference in means between the subjective and misinformative conditions was not statistically significant in general ($p = .95$ for a two-tailed t test), for the proattitudinal conditions ($p = .74$), or for the counterattitudinal conditions ($p = .85$) among participants who were most interested in the issue.
[13] This difference was statistically significant ($p < .001$ for a two-tailed t test).
[14] This difference was not statistically significant ($p = .60$ for a two-tailed t test).

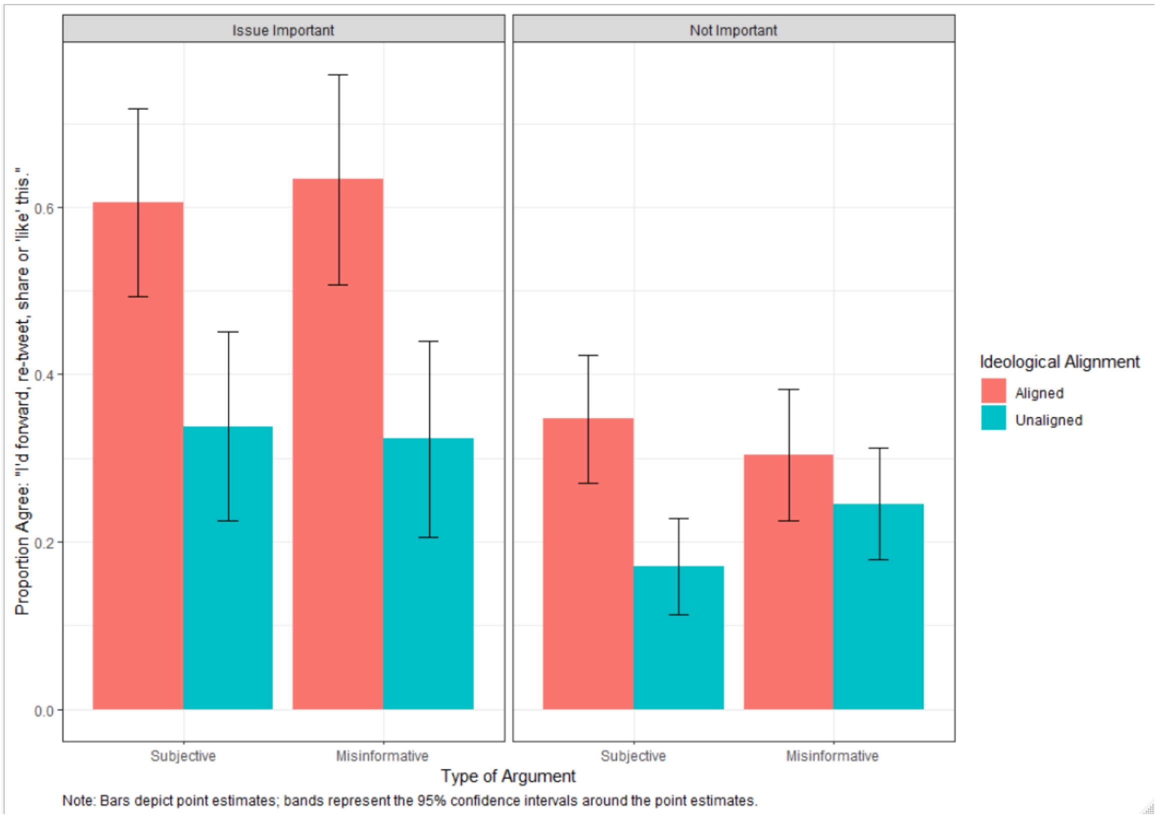

Figure 4. Intention to circulate by ideological alignment, presence of misinformation, and issue importance.

Figure 5 illustrates how the effects of the experimental conditions varied according to participants' experience in online political discussion. When we averaged across the conditions, participants who never discuss politics online were much less likely to say that they would circulate the post (25%) than either those who discuss politics with only like-minded people (39%) or those who have discussions with people with differing views (45%). Among participants who never engage in online political discussion, the pattern looked similar to that observed for less knowledgeable and less interested individuals. As shown in the first panel of Figure 5, participants who do not discuss politics online were far less likely to say that they would circulate the post if they were assigned to a counterattitudinal, subjective post rather than to another condition.[15] However, there was no statistically significant difference between the two proattitudinal conditions or between the two misinformative conditions.[16]

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[15] Two-tailed *t* tests indicated significant differences between the subjective, counterattitudinal posts and both the subjective, proattitudinal posts ($p < .001$) and the misinformative, counterattitudinal posts ($p = .003$).
[16] A two-tailed *t* test for the difference between the subjective, proattitudinal posts and the misinformative, proattitudinal posts was not statistically significant ($p = .82$); nor was it significant for the difference between the misinformative, proattitudinal posts and the misinformative, counterattitudinal posts ($p = .46$).

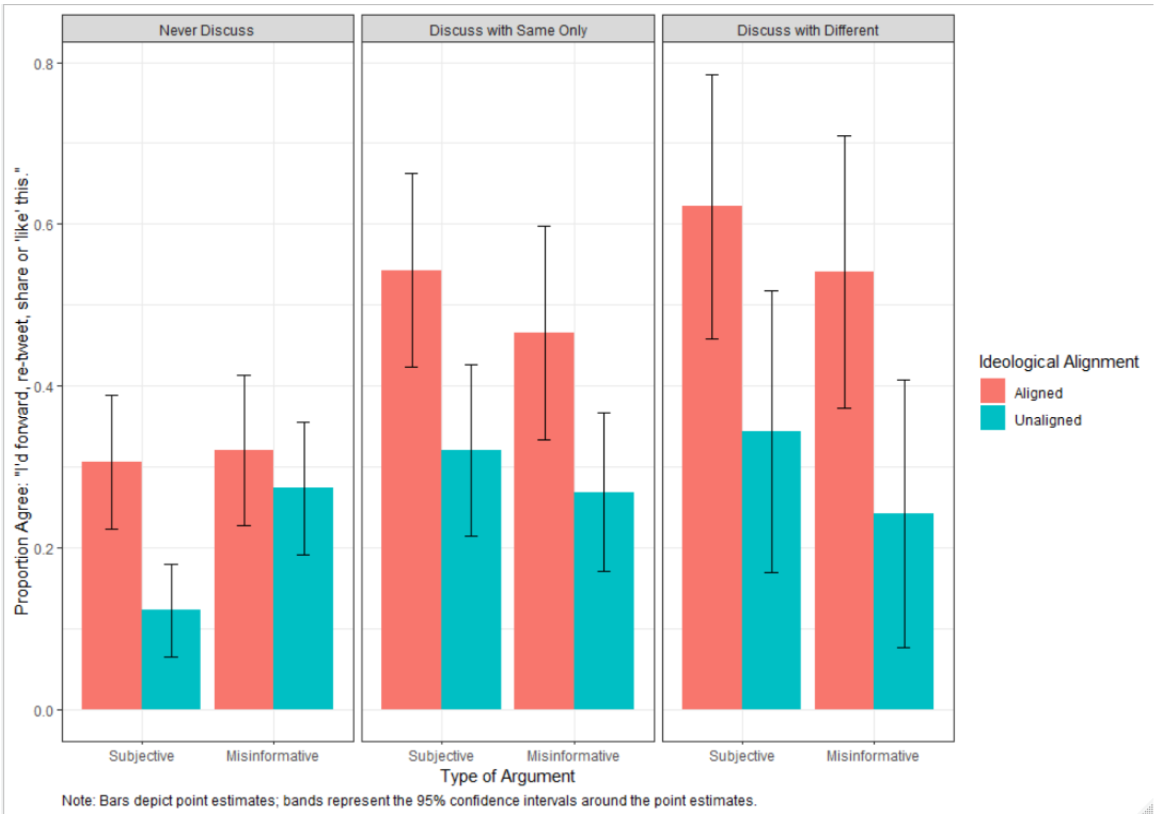

Figure 5. Intention to circulate by ideological alignment, presence of misinformation, and online political discussion.

By contrast, for participants who do discuss politics online, there was a large difference between the likelihood of circulating a proattitudinal post and that of a counterattitudinal post, and only small differences between the subjective and misinformative conditions. We observed the same pattern for participants who discuss politics online with only people who share their views and for those who sometimes discuss politics with people they disagree with. For both groups, the differences between the proattitudinal and counterattitudinal posts were large in both the subjective and misinformative conditions.[17] At the same time, none of the differences between the subjective and misinformative conditions were statistically significant. For both groups, in both counterattitudinal and proattitudinal conditions, misinformative posts were somewhat less likely to be shared than subjective posts. However, even when we pooled respondents, this difference was

[17] These differences were statistically significant ($p < .05$ for two-tailed t tests) in all conditions for both groups. When we pooled respondents who discuss politics with like-minded people and those who discuss politics with people with different views, the difference between the proportion that would circulate a proattitudinal post (53%) and the proportion who would circulate a counterattitudinal post (29%) was significant ($p < .001$).

relatively small (45% would circulate a subjective post and 37% would circulate a misinformative post) and fell short of statistical significance (p = .103 for a two-tailed t test). Overall, Figure 5 suggests that the key differences seem to be based on whether, not with whom, individuals discuss politics online.

To further investigate the mechanism that underpins decisions to circulate posts, we supplemented the analysis of intentions to circulate with ratings of the post's accuracy.[18] Overall, 52% of participants said that they "agree" or "strongly agree" that the comment in the post was accurate. As with the intention to circulate, we observed a sizeable proattitudinal bias in perceptions of the post's accuracy: Sixty-seven percent of participants exposed to a proattitudinal post thought that the comment was accurate, compared with just 38% of those who saw a counterattitudinal post.[19] Interestingly, as indicated in Figure 6, the presence of misinformation also seemed to affect accuracy judgments, but only in the proattitudinal conditions. Among those who saw a proattitudinal post, we found a significant difference between the subjective condition (74% agreed it was accurate) and the misinformative condition (59%). However, for participants exposed to a counterattitudinal post, there was no difference between the subjective condition (39% said that the post was accurate) and the misinformative condition (38%).[20]

[18] The full results of the analysis of perceptions of accuracy are presented in Kahne and Bowyer (2017).

[19] This difference was statistically significant ($p < .001$ for a two-tailed t test).

[20] The difference between subjective and misinformative conditions was statistically significant ($p < .001$) in the proattitudinal posts, but not significant ($p = .62$) in counterattitudinal posts for two-tailed t tests.

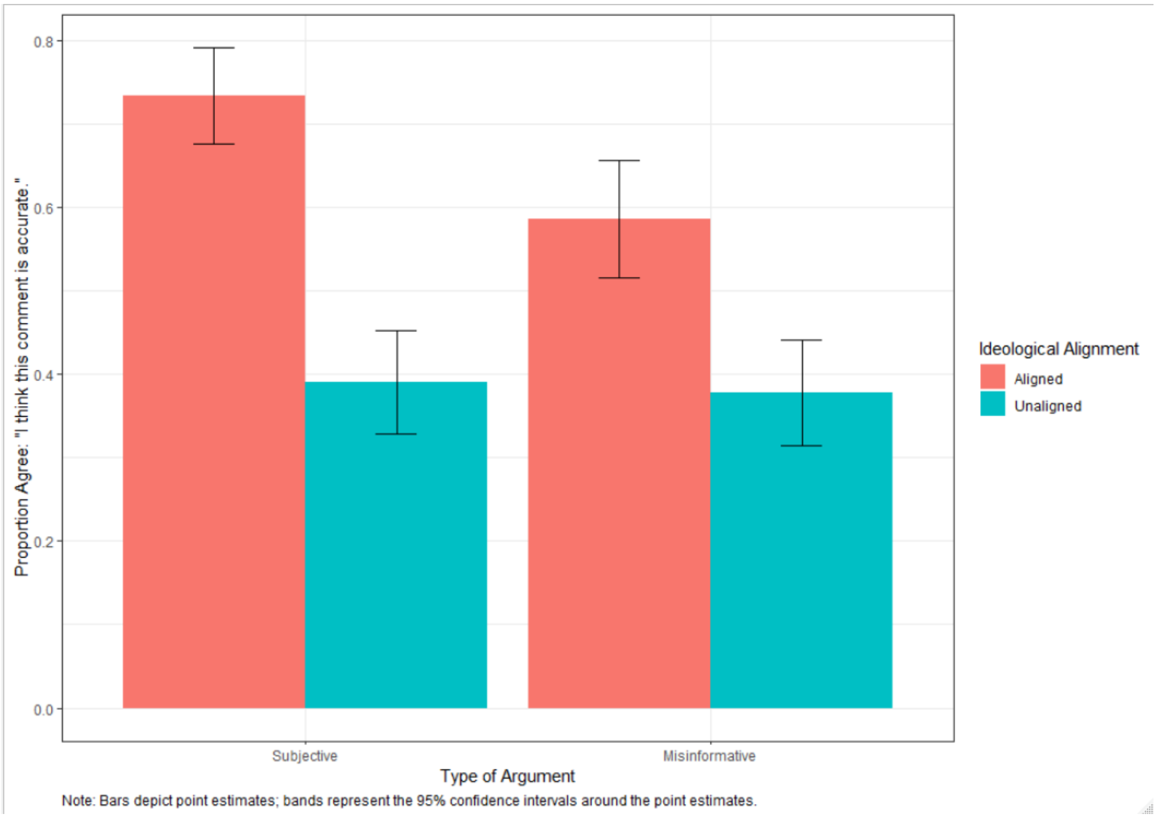

Figure 6. Perceptions of accuracy by ideological alignment and presence of misinformation.

The finding that the presence of misinformation in a post had some effect on participants' judgments of its accuracy but had no apparent effect on their intentions to circulate raises the possibility that at least some participants were willing to share a post that they believed to be untrue. The joint distribution of these outcome variables (displayed in Table 1) suggests, however, that this was a rare occurrence overall. Only 28 participants (3% of the total) agreed that they would circulate a post that they deemed to be inaccurate. This means that of the participants who agreed that they would circulate the post, 90% believed that it was accurate. And among those participants who believed that the post they saw was inaccurate, only 7% said that they would recirculate it. The proportion of participants willing to circulate a post they thought was inaccurate did not vary significantly across the experimental conditions.

Table 1. Joint Distribution of Accuracy Perceptions and Intentions to Circulate.

Intention	Not accurate	Accurate
Would not circulate, *n* (%)	384 (45)	198 (23)
Would circulate, *n* (%)	28 (3)	246 (29)

Because both perceptions of accuracy and intention to circulate were measured posttreatment, we could not assess the causal relationship between the two. One interpretation of the results is consistent with the theory of directional motivated reasoning. That is, the affect of the post drives both intentions to circulate and perceptions of accuracy: Both outcome variables are indicators of whether the individual agrees with the sentiment of the message. At the same time, the findings are also consistent with a theory that sees individuals as first evaluating whether a comment is accurate and then deciding whether they will share it further.

Seeking to adjudicate between these competing interpretations, we gained some further insight by comparing how accuracy perceptions varied across low- and high-knowledge participants. Figure 7 displays how accuracy perceptions of the different experimental conditions varied between these two groups. Among low-knowledge participants assigned to a subjective post, there was a large, statistically significant difference ($p < .001$ for a two-tailed t test) in the accuracy ratings between the pro- and counterattitudinal conditions, as expected. However, for low-knowledge participants who saw a misinformative post, the difference across ideological alignment was small and not significant ($p = .32$). Notably, a bare majority (51%) of less knowledgeable participants agreed that a factually false statement was accurate, even when the post was contrary to their views.

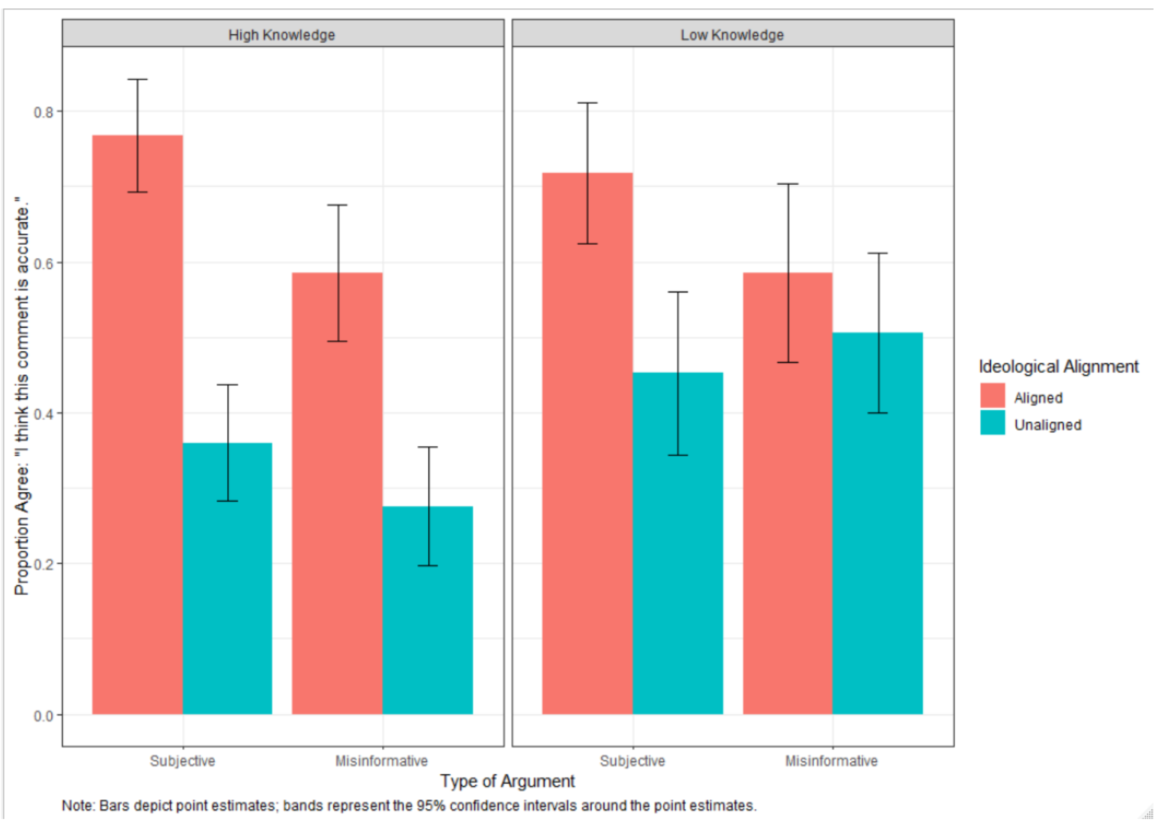

Figure 7. Perception of accuracy by ideological alignment, presence of misinformation, and political knowledge.

Among more knowledgeable participants, we saw a clearer effect of both ideological alignment and the presence of misinformation on perceptions of accuracy. More knowledgeable participants were less than half as likely to rate a post as accurate if they were exposed to a contrary viewpoint (32%) rather than to one that was consistent with their prior viewpoints (68%), regardless of whether they were assigned to a subjective or misinformative condition.[21] They were also less likely to rate a misinformative post as accurate (42%) than a subjective post (55%), averaging across ideological alignment.[22] That said, it is worth noting that a majority (58%) of more knowledgeable participants agreed that a factually false, proattitudinal post was accurate: Whereas both ideological alignment and the presence of misinformation affected the accuracy perceptions of more knowledgeable participants, the former effects seemed to outweigh the latter.

There was also a difference between less and more knowledgeable participants in the relationship between accuracy perceptions and intentions to circulate the posts, as seen in Figure 8. Among those who believed the post to be inaccurate, there was a difference across political knowledge in the likelihood of circulating the post. Twelve percent of less knowledgeable participants who thought the post was not accurate were willing to share it, compared with just 4% of more knowledgeable participants who thought the post was inaccurate.[23] Moreover, although there was no difference across the experimental conditions in the proportion of high-knowledge participants who would circulate an inaccurate post, low-knowledge respondents were much more likely to share a post that they deemed inaccurate if it was proattitudinal (20%) than if it was counterattitudinal (7%).[24] Among the more knowledgeable participants, then, the group that would circulate a post was effectively a subset of the group that deemed the post to be accurate. However, among less knowledgeable participants, there was a sizeable minority that would circulate something that they did not believe was true, particularly if it aligned with their views.

[21] These differences were statistically significant ($p < .001$ for two-tailed t tests).
[22] This difference was statistically significant ($p = .002$ for a two-tailed t test).
[23] The difference between less knowledgeable and more knowledgeable respondents was statistically significant ($p = .01$ for a two-tailed t test).
[24] This difference was statistically significant ($p = .03$ for a two-tailed t test).

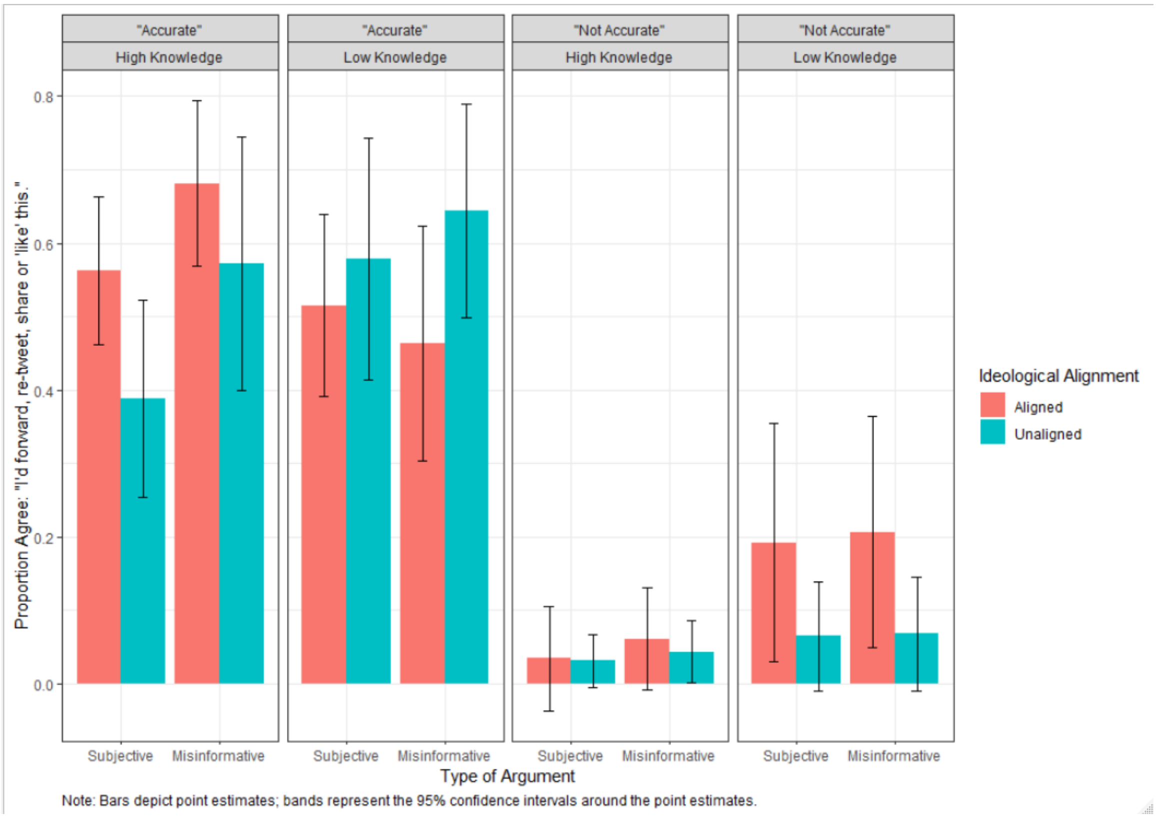

Figure 8. Intention to circulate by ideological alignment, presence of misinformation, political knowledge, and perceptions of accuracy.

Likewise, among those who perceived the post to be accurate, we observed different patterns for low- and high-knowledge participants in their intentions to circulate. For the less knowledgeable group, there were only small differences across the experimental conditions. Contrary to expectations, this group seemed somewhat more likely to circulate a counterattitudinal post (61%) than a proattitudinal post (50%), although this difference was not quite statistically significant (p = .102 for a two-tailed t test). There was no difference in the likelihoods of less knowledgeable participants circulating a subjective or a misinformative post (54% and 56%, respectively) that was believed to be accurate.[25]

By contrast, both aspects of the post seemed to affect the likelihood that more knowledgeable participants would circulate something they deemed to be accurate. Among posts perceived to be true, those who expressed proattitudinal views were more likely to share (61%) than those with counterattitudinal viewpoints (46%).[26] Having deemed a post to be accurate, high-knowledge participants were also more

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[25] This difference was not statistically significant (p = .79 for a two-tailed t test).

[26] This difference was statistically significant (p = .02 for a two-tailed t test).

likely to circulate misinformative posts (64%) than subjective posts (50%).[27] This helps to explain why we found no difference in the likelihood that high-knowledge participants would circulate a misinformative post relative to a subjective one, despite the fact that they were less likely to agree that the former posts were accurate. It seems that for these participants the misinformative posts were more compelling, perhaps because they had the form of a factual argument even if the "fact" was incorrect.

Discussion

This study used an experiment embedded in a nationally representative survey to examine the relative impact of varied factors on intentions to circulate a simulated social media post. In particular, it sought to uncover factors that might influence the spread of misinformation. Misinformation circulates widely on social media. This circulation of misinformation, in turn, is believed to undermine thoughtful assessment of policy options and varied candidates for office, to make dialogue among those who hold differing perspectives less productive and respectful, and, ultimately, to chip away at the legitimacy and effectiveness of democratic governance (Hochschild & Einstein, 2015). The stakes are high.

In general, we found that the presence of misinformation did little to diminish the likelihood that participants would circulate it. Instead, the aspect of a post that seemed to matter most was whether the ideology of the post aligned with an individual's prior beliefs. Given the broad and expanding importance of social networks as a source of news, this dynamic enables misinformation that serves particular political agendas to circulate widely. Indeed, ideologically homophilous social networks are often described as "echo chambers," but this analogy, with its implication of a closed system, may understate the problem. Unlike when false rumors are spread by word-of-mouth or by campaign mailers, when misinformation circulates online, each recipient becomes a potential distributor with the ability to amplify the message many times over through their social network.

Although the effects of ideological alignment generally trump the presence of misinformation, this study also indicates that their relative effects vary across different groups of young people. Young people who were less politically engaged or informed were almost as likely to share misinformative posts that were counterattitudinal as they were to share proattitudinal posts. It may be the case that the seemingly authoritative tone of the misinformative posts—the falsehoods are presented as if they were facts—was compelling enough to counterbalance the skepticism accorded to ideologically misaligned posts. Thus, it seems that less informed/engaged individuals stand out as being potentially susceptible to misinformation that runs contrary to their prior beliefs.

Among participants who were more politically engaged and informed, we observed greater bias in favor of circulating ideologically aligned content, consistent with research on partisan motivated reasoning (Taber & Lodge, 2006). This group's apparent skepticism toward counterattitudinal messages generally extended to both subjective and misinformative comments. At the same time, we found scant evidence that suggests that the intentions of more engaged and informed individuals to circulate a post were affected by the presence of misinformation. Perhaps most crucially, among those assigned to a proattitudinal condition,

[27] This difference was statistically significant (p = .02 for a two-tailed t test).

there was little difference in the likelihoods of circulating a misinformative post or subjective post. More engaged and informed young people, thus, seem to be particularly susceptible to misinformation that aligns with what they already believe.

Consequently, it may seem that directional motivation outweighs accuracy motivation among this group. However, Druckman and McGrath (2019) caution that what seems like directional motivation actually may reflect accuracy motivation. Liberals and conservatives may be equally committed to circulating accurate content, but differ in the criteria they use in judging a message's credibility. When we examined individuals' perceptions of the posts' accuracy, we did find some evidence that is consistent with this interpretation. Among more knowledgeable participants, almost all of those who said they would circulate a post also believed that its message was accurate. This is consistent with a commitment to accuracy (or at least to appearing to be committed to accuracy). In addition, more knowledgeable participants were less likely to say that a proattitudinal post was accurate if it contained misinformation than if it was subjective. This is consistent with previous research (Pennycook & Rand, 2019) that indicates that more analytical thinkers possess a greater capacity to discern falsehoods. At the same time, a majority of this group believed that the comments made in the proattitudinal, misinformative posts were accurate. Those who did were even more likely to share it than their counterparts who believed that a proattitudinal, subjective post was accurate. So, although there is some evidence of accuracy motivation, its effects seem to be rather limited, and there appears to be a decidedly partisan tint to perceptions of accuracy.

The design of the survey experiment allowed us to test the effects of several potential moderators of the effects of ideological alignment and misinformation on the likelihood of circulating political content online. However, there are some important limitations to the inferences that can be drawn from the design. With respect to the study's internal validity, several key variables were measured observationally rather than experimentally manipulated. These include the survey questions relating to ideology, political knowledge, and issue importance. Thus, we need to be cautious in interpreting the causal relationship between these variables and the outcome variables. Similarly, because both intentions to circulate and perceptions of accuracy were assessed posttreatment, we could not test whether one of these outcome variables was conditional on the other.

With respect to its external validity, our study was restricted to a particular population—15- to 27-year-olds in the United States—at a particular point in time. Because youth tend to be much more frequent users of social media than older Americans, they might respond differently to the posts included in the experiment than those who are less familiar with memes and other pieces of the online repertoire. At the same time, as early adopters of these technologies and as the proportion of the population that might be considered "digital natives" continues to grow, this population may represent a harbinger of the future. Regarding the timing of the survey, the experiment was conducted in 2013, well before the 2016 election and its aftermath brought "fake news" into the lexicon and public consciousness. It is possible that attentiveness to misinformation may have risen subsequently; however, that has certainly not seemed to retard the spread of misinformation online, nor does it seem that the influence of partisan motivation has declined since the study was conducted.

Perhaps the most significant threat to external validity is that our dependent variable was measured by survey respondents' stated intentions to circulate the experimental treatment rather than by an observation of individuals' behavior on an actual social media platform. We lack data that would indicate whether this intention to circulate a post translates into behavior on social media. Nevertheless, our findings with respect to the effects of ideological alignment and of the presence of misinformation are consistent with studies that have relied on data drawn directly from social media platforms such as Twitter and Facebook (An, Quercia, Cha, Gummadi, & Crowcroft, 2014; Barberá, Jost, Nagler, Tucker, & Bonneau, 2015; Del Vicario et al., 2016; Himelboim, McCreery, & Smith, 2013; Schmidt et al., 2017; Shin et al., 2016).

More research is required to identify more precisely the mechanisms linking the cognitive processing of political messages through social media to behavioral decisions regarding the circulation of this content. Given the volume of political misinformation spread through social media and its troubling consequences for democratic politics, scholars need to focus on both system-level and individual-level strategies that enable the identification of misinformation and quell its spread. For instance, Lewandowsky et al. (2017) highlight several "technocognitive" approaches by which platforms such as Facebook and Google might limit their users' exposure to misinformation. In addition, it is clear that efforts to promote individual capacities and dispositions regarding misinformation are also needed. One approach that we believe deserves particular attention is media literacy education (see Vraga & Bode, 2017, for a discussion). The findings from this study underscore the need to examine whether media literacy education can foster a commitment to the critical evaluation of policy arguments and a commitment to rejecting factually inaccurate arguments, even when those arguments align with what one already believes. This demeanor is essential to democratic citizenship at any moment in time, but is especially vital in an age in which individuals are empowered as both producers and circulators of political content.

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Appendix: Multivariate Models of Intention to Circulate Post

This appendix presents multivariate regression analyses of intentions to circulate the experimental post. These analyses employed the full range of this ordinal dependent variable, estimating a series of ordered logit models, which are reported in Table A1.

Table A1. Multivariate Models of Intention to Circulate Post.

Variable	Model I	Model II	Model III
Ideologically unaligned condition	−.821***	−.840***	−.891***
	(.127)	(.173)	(.129)
Misinformative condition	.026	.005	.065
	(.125)	(.179)	(.127)
Ideologically Unaligned × Misinformative Condition		.040	
		(.250)	
Female			.254*
			(.128)
Age			−.006
			(.018)
Black			.577**
			(.177)

Asian			.063
			(.207)
Latinx			.807***
			(.180)
Other/multiple races			.755*
			(.337)
Foreign born			.287
			(.230)
College degree			−.312
			(.192)
Metropolitan area			.110
			(.191)
Midwest			.080
			(.200)
South			.222
			(.187)
West			−.555**
			(.199)
Likelihood ratio	42.781	42.807	104.821
Nagelkerke R^2	.052	.052	.124
N	862	862	862

Note. Dependent variable, intention to circulate, was a 4-point ordinal scale ranging from *strongly disagree* to *strongly agree*. Entries are ordered logit coefficients; standard errors are within parentheses.
**p* < .05. ***p* < .01. ****p* < .001 (two-tailed).

Model I included only the experimentally manipulated variables: ideological alignment and the presence of misinformation. Consistent with the results reported in Figure 2, it indicates that assignment to an ideologically unaligned condition had a statistically significant, negative effect on intentions to circulate. However, the presence of misinformation did not seem to have any effect on the likelihood that a post would be circulated.

Model II added an interaction between the two characteristics of the experiment; however, it was not statistically significant. Model III added a set of demographic variables: gender (male was the baseline category), age (measured in years), race/ethnicity (non-Hispanic White was the baseline), country of birth (U.S. was the baseline), educational attainment (no college degree was the baseline), metropolitan status (nonmetropolitan was the baseline), and region of residence (Northeast was the baseline). The inclusion of these control variables did not alter the substantive conclusions: The ideological alignment of the post had a large effect on intentions to circulate, but the presence of misinformation did not.

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When Disinformation Studies Meets Production Studies: Social Identities and Moral Justifications in the Political Trolling Industry

JONATHAN CORPUS ONG[1,2]
University of Massachusetts Amherst, USA

JASON VINCENT A. CABAÑES
De La Salle University—Manila, Philippines

The field of disinformation studies remains relatively silent about questions of identity, motivation, labor, and morality. Drawing from a one-year ethnographic study of disinformation producers employed in digital black ops campaigns in the Philippines, this article proposes that approaches from production studies can address gaps in disinformation research. We argue that approaching disinformation as a culture of production opens inquiry into the social conditions that entice people to this work and the creative industry practices that normalize fake news as a side gig. This article critically reflects on the methodological risks and opportunities of ethnographic research that subverts expectations of the exceptionally villainous troll and instead uses narratives of creative workers' complicity and collusion to advance holistic social critique and local-level disinformation interventions.

Keywords: networked disinformation, fake news, trolls, production studies, digital labor, political marketing, ethnography, complicity, Philippines

This article broadens the ambit of current inquiry about disinformation by putting it in dialogue with production studies. Existing works in disinformation studies—along with journalistic exposes of "fake news factories" (Silverman & Alexander, 2016) and their incisive profiles of racist and misogynist influencers of the far right (Moore, 2016)—have brought to light the unanticipated scale of organized social media manipulation around the world. Even to the most technopessimistic of analysts, the shocking revelations about the toxic alchemy of technology and politics have come at a whiplash pace. From entrepreneurial Macedonian teenagers peddling clickbait content to Trump supporters for easy money, to Cambridge Analytica's crafty servicing of psychographic hype and old-school blackmail techniques to political clients, to

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Jonathan Corpus Ong: jcong@umass.edu
Jason Vincent A. Cabañes: jason.cabanes@dlsu.edu.ph
Date submitted: 2019–01–22

[1] Our title is inspired by Vicki Mayer's (2016) "The Places Where Production Studies and Audience Studies Meet."
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the 9 million Russian troll tweets offered by Twitter as a "goldmine for researchers" (Burgess, 2018), disinformation research currently has no shortage of insidious strategies of political influence to report.

In the midst of all these revelations, recent work in disinformation studies has developed new taxonomies aimed at critiquing digital disinformation across its different dimensions: as *content*, *agents*, and *technologies* (Wardle & Derakshan, 2017). Scholars have also proposed new typologies differentiating the variety of fake news (Tambini, 2017) and conducted meta-analysis of how "fake news" has been used in academic scholarship (Tandoc, Lim, & Ling, 2017). Other disinformation studies have demystified the persuasion strategies at the heart of the disinformation enterprise. Often beginning with a normative stance of denunciation that assigns the role of villain to disinformation agents, their forensic objectives range from enumerating the populist and/or posttruth rhetorical styles of hate-spewing politicians (Govil & Baishya, 2018) and paid trolls (Bulut & Yörük, 2017) to tracing their coordinative networking and message dissemination strategies (Donovan & Friedberg, 2019; Marwick & Lewis, 2017). Also at the heart of such disinformation studies lies the thrust to investigate the extent to which specific features of digital technologies accelerate disinformation and threaten democratic deliberation. Hence, a wave of case studies dedicated to the close study of individual platforms such as YouTube (Lewis, 2018) and discrete technologies such as Twitter bots (Woolley & Guilbeault, 2017) has pondered individual platforms or technological consequences for radicalization, polarization, and discrimination.

By drawing from the rich tradition of production studies and the cultural studies of media industries (Banks, Conor, & Mayer, 2015; Grindstaff, 2009; Hesmondhalgh, 2007; Mayer, Banks, & Caldwell, 2009), this article opens an expansive approach to examining disinformation as a culture of production. This means conceptualizing disinformation as both product and process emerging from organizational structures, labor relations, and entrepreneurial subjectivities.

One important value of approaching disinformation as a culture of production is that it exposes the broader systems and cultures of practice that normalize and incentivize its everyday work arrangements. To do this, we move away from the usual starting point of exposing or naming and shaming disinformation producers as exceptional villains; instead, we begin by listening to them, and recording their intentions and their experiences in their own words. Through this, we get to a closer understanding of why fake news producers do this kind of work. We can identify the social conditions that have led them to their work, the cultural scripts they use to justify their work to others and themselves, and, crucially, the opaque institutional procedures that have allowed their work to flourish.

A second value of the production studies approach is that it underscores how disinformation is a process of both collaboration and competition and an intentional product of hierarchized and distributed labor. This insight helps disinformation studies propose new questions of ethics and accountability that consider broader institutional relations at play. It raises concerns about how we assign responsibility to the diversity of disinformation producers acting in various capacities as masterminds, complicit colleagues, or low-level likers in what is essentially an open industry secret. It also pushes us to think of how we can expand our notion of disinformation interventions from content regulation and platform banning of bad actors and their harmful content to include process regulation of the ways political campaigns and consultancies are conducted (see Ong, Tapsell, & Curato, 2019, p. 38). Recognition that fake news workers can themselves be precarious digital workers prompts reflection of appropriate industry safety nets to prevent (mostly young, millennial, aspiring-middle class) people from slipping into underground work.

Here, we want to address how our move away from naming and shaming disinformation producers toward understanding them within their situational and institutional contexts might be misconstrued as reticence toward *parrhesia*, "the practice of frank and courageous speech delivered at the risk of angering . . . a more powerful interlocutor" (Roudakova, 2017, p. 38; see also Foucault, 2011). Our attention to precarity and uncertainty in the distributed labor of fake news might be misunderstood as possibly deflecting moral critique or, worse, playing into the hands of these savvy media manipulators. We want to clarify that in taking a production studies approach that seeks to first listen to them, we do not absolve them from the work that they have done. Rather, the goal is to understand them so that we can subsequently engage in a nuanced reflection on complicated moral questions of "complicity and collusion" in our media participation (Silverstone, 2007). By subverting expectations of people about who exactly paid trolls are and where they come from, we critique the workings of the system at large and the different levels of responsibility at play. We wish that this approach contributes to broader debates about the political value of representing perpetrators' narratives, which in media scholar Fernando Canet's (2019) view can deepen "understand[ing of] both the personal and situational dimensions that could lead a human being to commit such acts [and] help us to determine how to prevent future cases" (p. 15).

As an empirical anchor for this article's exploration of digital disinformation as a culture of production, we draw from our research project that involved interviews and participant observation with the actual authors of false news in Philippine political campaigns during and after the 2016 national elections. This focus on the Philippines is significant because it has been at the forefront of contemporary innovations in digital disinformation and, hence, often signals in advance what other democracies in the world could be confronted with. The May 2016 elections in the country catapulted populist authoritarian Rodrigo Duterte to the presidency after a savvy campaign that mixed the shock value of his profanity-laced speeches with the firepower of vociferous social media influencers, bloggers, fan groups, and anonymous paid trolls amplifying his message of anger against the elite establishment. Local and global media headlines were quick to reduce Duterte's triumph to what they assumed to be the exceptional innovation of his click army. An academic study based on secondary surveys of news reports unfortunately replicated this misleading assertion and inaccurately spotlighted Duterte's party as the Philippines' sole player in organized social media manipulation (Bradshaw & Howard, 2017).

Moral panics commentaries on Filipino fake news often miss retelling the broader historical narrative of the image-based patronage political system in the country that has normalized spin and "black propaganda" negative campaigns orchestrated by branding strategists from the creative industries (Gloria, Tabunada, & Fonbuena, 2004). Rather than an exceptional invention of angry populist politics or social media, digital disinformation should be seen as but the current iteration of tried-and-tested techniques of promotional marketing transposed into the political sphere. It is the culmination of the most unscrupulous trends in Philippines media culture and politics, borne out of the country's weak political party ideologies and affiliations that are completely overwhelmed by political personalities building clientelistic relationships with their supporters (Coronel, Chua, Rimban, & Cruz, 2004). At the same time, we acknowledge that their vile and volatile consequences for the country's democracy are also unprecedented, especially against the current backdrop of a violent drug war, attack on democratic institutions, and muffling of opposition voices.

Adopting the more expansive commitment of production studies to foreground producers' subjectivities—"their similarities, their diversity, and their own internal contradictions" (Banks et al., 2015, p. xi)—our study was able to reveal not only the broad reach of organized social media manipulation, but also its deep entanglement with a professional hierarchy led by advertising and PR experts. We call these arrangements the *architecture of networked disinformation*. We return to this concept in the latter half of this article, where we flesh out its key characteristics and identify how political trolling has become an easy sideline job in the booming creative economy.

Shared Agendas

In this section, we draw connections between the burning questions and interests of disinformation studies with key principles and approaches advanced by production studies. The aim here is to show shared agendas of the two areas of study, which can serve as generative starting points for future research.

It is important to note that disinformation research itself acknowledges the need for closer inquiry into the "agents of information disorder." Claire Wardle and Hossein Derakshan's (2017) comprehensive report outlines a broad research framework for the field. They highlight three "elements of information disorder" along with accompanying key questions: (1) agents (Who are they and what motivates them?), (2) messages (What format do they take?), and (3) interpreters (How do they make sense of the messages?). Wardle and Derakshan introduce classification categories for the study of the three elements, which taken together correspond with traditional distinctions in the "circuit of culture" consisting of producers, texts, and audiences (du Gay et al., 1997). Their analytical categories pertaining to agents are level of organization, type of motivation, level of automation, and intentions to mislead/harm specific audiences (Wardle & Derakshan, 2017, p. 28).

Certainly, these suggestions build on the many gaps left by dominant social network and content analysis approaches in disinformation research. Social network and content analyses theorize on agents' intentions to mislead or harm out of digital forensics of their coordinative behaviors and their produced messages (media content such as tweets, memes, etc.). When deployed effectively, these approaches map out processes by which conversational frames, policy discourse, and mainstream media headlines are hijacked by bad actors (e.g., Uyheng & Carley, 2019). Less effective approaches are those that fetishize the effects of new technologies such as Twitter bots, without situating these within broader campaign infrastructures or the social contexts of the agents that design them (e.g., Woolley & Guilbeault, 2017).

An engagement with the anthropological spirit behind the above questions—Who exactly are these agents and what motivates them?—demands that we understand the dynamics of how social identities, class, and labor relations unfold within everyday moral economies of production. Here, production studies can suggest new analytical categories: How do intersections of age, class, gender, sexuality, and ethnicity affect agents' recruitment or participation? What are the vertical and horizontal relations of leadership, collaboration, and competition? What are the features of the local political culture? How are diverse sectors of the creative economy involved? What is agents' communicative intent of using one medium over another to spread disinformation within an integrated "polymedia" (Madianou & Miller, 2012) communication infrastructure? Production studies would also demand greater reflexivity about the research setting and the place of the researcher in relation to the field and the diversity of agents s/he meets, epistemological and methodological concerns still absent from the core disinformation research agenda.

In Mayer and colleagues' (2009) introduction to the first volume of *Production Studies*, they describe production studies as a field that takes

> the lived realities of people involved in media production as the subjects for theorizing production as culture . . . gather[ing] empirical data about . . . the complexity of routines and rituals, the routines of seemingly complex processes, the economic and political forces that shape roles, technologies, and the distribution of resources according to cultural and demographic differences. (p. 4)

Attending to the "slippery social nature of labor practices" (p. 5) and juxtaposing them alongside official statements, regulatory standards, and press coverage intend to disrupt popular assumptions around the authorial intent and ingenuity of a visionary producer. Georgina Born (2008) conceptualizes media production as the translation work of broad normative principles into institutional codes and then into diverse media producers' personal intentions. Applying this insight to the study of disinformation producers is a worthwhile step back from the headline-grabbing politicians and influencers to whom we attribute fake or hateful content, and a step closer to understanding their position and status in relation to the vast network of paid political trolls and real supporters participating in the circulation of fake news.

The intention of a production studies approach would not at all be to displace normative judgment about the democratically destructive effects of disinformation, but to get to the collisions and convergences of economic incentives and vested interests that gave rise to this intentional object. By recording the voices of invisible workers responsible for bad objects—from the casting agents of (racist/classist) *Jerry Springer* (Grindstaff, 2009) to the cameramen of (misogynist) soft-core porn (Mayer, 2008)—production studies mediate the knee-jerk demonization of individual characters, providing instead a more holistic social critique.

Applied to the study of disinformation, production studies' aim to link individual experience with broader socioeconomic arrangements can be read alongside political ethnographies of populist publics and the "rationalities" behind their support for Donald Trump in the United States (Hochschild, 2016), Narendra Modi in India (Chakravartty & Roy, 2017), and Rodrigo Duterte in the Philippines (Arguelles, 2019; Curato, 2016). For Hochschild (2016), the roots of the populist upsurge in politics do not lie in economic distress as much as they lie in a story about economic distress. Production studies and political ethnographies offer disinformation studies a broader analytical frame beyond the study of an exceptional event of "alternative facts" into the meticulous construction of mediated narratives at the heart of populist authoritarianism (Cabañes, Anderson, & Ong, 2019; for a similar argument from within political communication, see Kreiss, Barker, & Zenner, 2017). Recent disinformation studies apply some of these insights in emphasizing the volatile collaborative work arrangements behind fake news (e.g., Starbird, Ahmer, & Wilson, 2019).

Disinformation and Digital Production

Many principles of production studies have also informed a broad range of relevant research into neoliberal precarious labor arrangements in digital gig economies. Interdisciplinary research in media studies as well as sociology and anthropology elaborates on diverse factors that inhibit worker autonomy, satisfaction, and political solidarity for IT workers in Australia (Gregg, 2011), digital influencers in Singapore (Abidin, 2016), content moderators in the Philippines (Roberts, 2016), and click farm workers in Indonesia (Lindquist, 2019). Provocatively, the sociologist Antonio Casilli (2016) argues that recent political outcomes, particularly of Trump's election and the global rise of fascism, are best understood in light of global digital labor arrangements. As he puts it,

> fascism, but coming in different shades, goes hand in hand with the oppression of digital technology users, marginalized, forced into accepting only one centralized, normalized, censored and exploited mode of platform governance . . . the structure of the current click economy and global digital labor market helped Trump's victory. Not algorithms. Nor fake news. (blog post)

These studies have particularly inspired our curiosity to inquire into whether or not the disinformation producers in our Philippines field site are inscribed in the same distributed labor, "race-to-the-bottom" arrangements as previous research on "digital sweatshops" in the Global South has described (Graham et al., 2017).

Within disinformation studies, the insightful works of Joan Donovan and Brian Friedberg (2019), Rebecca Lewis (2018), Alice Marwick (Marwick & Lewis, 2017), Whitney Phillips and Ryan Milner (Phillips, 2015; Phillips & Milner, 2017), and Matti Pohjonen and Sahana Udupa (Pohjonen & Udupa, 2017) make use of ethnographically inspired approaches from their diverse backgrounds of social anthropology, folklore studies, and within media research fan studies and science and technology studies to produce holistic and grounded analyses of disinformation production.

Shared agendas with production studies are evident here and provide a useful roadmap for future research. First is the sustained commitment to locate and contextualize bad objects within broader media ecologies and institutional histories. For instance, Phillips (2015) traces how troll culture actually extends from (the critique of) mainstream media culture, which challenges the simplifying and pathologizing discourses of shock or exoticism that usually accompany popular coverage of fringe political actors in online spaces. Meanwhile, Marwick and Lewis's (2017) helpful concept of "attention-hacking" situates bad actors' messaging and coordinative strategies alongside critique of "vulnerabilities" of mainstream media, as they show how news media's own predilection to hastily cover trending news items can be turned against them if they are not careful.

Second is the anthropological commitment to attend to global difference and culture as important grounds for critique and judgment. For instance, Pohjonen and Udupa (2017) reject tendencies in current disinformation debates to apply from the top-down the legal frame of "hate speech" and its "assumptions around politeness, civility, or abuse as universal features of communication with little cultural variation" (p. 1174). As an intervention to binary classifications between hate speech and acceptable speech, they propose that media and policy research draw from anthropological approaches that are sensitive to emic categories and the "complex politics involved in labeling certain kinds of speech as one thing or another" (p. 1187). Future projects on disinformation agents or producers have much to build on from reading previous disinformation studies alongside production studies. In the next section, we expand in greater detail the methodological choices we made in our research that attempt to apply production studies' concern with researchers' reflexivity and dialectical analysis of systems and individuals.

Method

To demonstrate concretely how underexplored aspects of disinformation might be analyzed as part of a broader analysis of the moral economies of digital media production, this section discusses the methodological choices we made in our research project on the production of digital disinformation in the Philippines. Our research was conducted in Manila from December 2016 to December 2017, in the aftermath of the campaigns for the May 2016 Philippine national elections, which saw the intensification of online political vitriol and the rise of controversial politician Rodrigo Duterte to the country's presidency.

This was a politically volatile period with Duterte's drug war registering casualties in the thousands, key figures of the political opposition jailed, and critical journalists trolled and harassed, including with arbitrary legal claims of "business violations" (Soriano, David, & Atun, 2019). It is clear that political trolling is not confined to verbal abuse but can escalate to physical or even mortal harm. Many journalists and academics responded by shaming Duterte supporters as brainwashed mobs, sluts, and cyber pests in online discourse as well as through investigative reports aiming to "unmask the trolls" (Almario-Gonzalez, 2017), thus creating a vicious cycle of hateful confrontation across political camps.

Thus, when we reached out to personal contacts we knew to have worked in political campaigns, we made sure to carefully explain our main interest in digital labor, particularly in the procedures and structures of digital political operations. Following the protocols of university research ethics, we emphasized to them that we would disidentify information that could be traced to individuals. Conscious of the sensitive nature of labels such as "troll" and "fake news" especially in our initial recruitment of participants, we only used these words after respondents themselves used these terms in the course of an interview and only after we had established rapport with them.

Finding respondents was a slow and tricky process. Searching for high-level strategists, we learned early on that it was actually an open secret in the media and advertising and public relations circles who the lead campaigners were. Given the country's personality- rather than party-based political system, ad and PR consultants have traditionally served central roles in branding political candidates. Thus, a number of these high-profile strategists did not feel implicated in debates on fake news and happily boasted of their services in interviews with local and global media (Jenkins, 2018). We met other strategists who kept to the shadows but used the interviews with us to highlight their own savvy. Our positionality here as Filipino academics in high-status positions as professors with degrees in foreign universities surely helped in recruitment; we interpreted that many of the strategists sought status and credit not only from their peers in the industry, but also from credentialed others whom they regarded as "experts."

From these initial interviews, we uncovered the hidden hierarchy of digital disinformation producers as the ad and PR strategists introduced us to lower-level workers who assisted them in campaigns. These people were cagier when it came to sharing details compared with the confident, financially well-off strategists. Although some of them had already quit their political trolling jobs, a few found it difficult to recount events, as if they had not spoken about the work they had done to anybody before. To gain their trust, we emphasized our empathetic approach, reassuring them that our focus was understanding the broader system of trolling rather than "exposing" individual workers or clients and their bad actions.

In total, we conducted 90- to 120-minute interviews with 20 disinformation producers. These included six of those whom we call the "chief architects of networked disinformation," the lead advertising and PR experts in charge of the overall communication plan; five "anonymous digital influencers," the aspirational middle-class digital workers moonlighting as operators of anonymous accounts that command 50,000 or more followers on Facebook and Twitter that do the important work of translating campaign strategies into the popular vernaculars of pop culture references, snarky gay humor, or gutter language; and nine "community-level fake account operators," the precarious middle-class digital workers tasked with sharing and amplifying core campaign messages in the online communities and Facebook groups they had infiltrated.

To supplement these interviews, we also conducted participant observation of more than 20 publicly accessible Facebook groups and pages and Twitter accounts supporting various political camps—including those that were explicitly pro- and anti-Duterte—as well as those that had no explicit representation of candidates or political parties, but who claimed to curate "social media news." This allowed us to understand how networked disinformation campaigns were translated into specific posts or memes. During our fieldwork, some participants showed us fake accounts they operated and even shared their passwords to these accounts. This provided us an added opportunity to compare and contrast what our participants said in the context of the interview with what they actually did in the online profiles they created, as we were able to check on the digital traces they left in their Facebook histories. In academic writings as well as our own interviews with curious journalists about our work, we are conscious not to disclose usernames or handles, following anonymization protocols for "risky research."

Networked Disinformation as a Digital Project

Earlier in this article, we introduced the concept of "networked disinformation" to describe the primary model of disinformation production in Philippine political campaigns. This concept foregrounds the hierarchical but distributed labor of loosely organized campaign operators. In this section, we explain the two key features of a networked disinformation project by drawing on the experiences of workers at various positions in this professional hierarchy. As we pointed out earlier, these workers include the chief disinformation architects, the anonymous digital influencers, and the community-level fake account operators.

The first key feature of networked disinformation that we want to highlight is how it is rooted in general principles in advertising and public relations. We discovered in our project that networked disinformation for Filipino politicians was a hyperextension of corporate marketing practices, in which techniques of "attention-hacking" (Marwick & Lewis, 2017) were first tested out in advertising and PR campaigns for shampoo or soft drink brands and then transposed to political marketing. Both campaign principles and work structures followed models first developed in advertising and PR, and they were applied to campaigns for politicians across the political spectrum.

Grace (44 years old), one of the more cutting-edge digital PR strategists in the disinformation industry, for example, explained that she first developed Twitter disinformation techniques while handling the accounts for a high-profile telecom brand and international celebrity events. During this time, she perfected the craft of recruiting several Twitter influencers who would execute her two-pronged plan. One involved "trending," which meant organizing influencers to boost the same hashtag through diverse witty, snarky, and pop culture-savvy posts that aimed to draw the attention of journalists as well as the general public. The other technique involved what we call "signal scrambling," which involved the same influencers torpedoing their opposing campaign's hashtags by dividing support for these through similar-looking but syntactically different decoy hashtags. Grace said that she had recently ventured to doing more political consultancies in the 2016 elections as she needed a challenge different from her typical gigs with corporate brands. She insisted that with the creativity and talent of social media influencers in the Philippines, the country was actually "sitting on a stockpile of digital weapons."

Certainly, digital influencers themselves saw the financial opportunities in disinformation operations but justified that these were natural extensions of doing native advertising for corporate brands. Most of the digital influencers operated between three to six accounts of various personas—from "positive" inspirational meme pages to pseudonymous pop culture characters with bitchy personas—that variably translated the same communication objective into diverse expressions that appeared "organic" or "on-brand" to the particular social media profiles they maintained. Thirty-year-old Dessa told us, however, that she had to construct from scratch the bitchy accounts that used snarky gay humor for political clients: "For corporate brands, we need to stick with more positive messaging. Political clients don't have brand bibles though and so it's normal for us to go on attack mode against their opponents."

The second key feature of networked disinformation is its project-based nature, where workers were employed on short-term contracts with their clients who measured the delivery of outputs along specific criteria and metrics. These were often taken on as sideline work, as people maintained their day jobs in advertising, online marketing, or serving as politicians' administrative staff. As distributed labor, different workers were enlisted to achieve discrete objectives while only having loose and informal connections with their fellow workers. Often disinformation workers did not share the same office and were not always clear how certain campaigns fit within overall objectives of political clients.

Illustrative of this project-based nature of networked disinformation was a campaign aimed at shifting public sentiment about one of the Philippines' most prominent political clans using historical revisionist narratives. In the course of talking to different strategists, we learned that although there was a singular campaign objective that unified this campaign, the disinformation producers involved in it were working in completely separate teams. Although these teams were working on different elements of the campaign, they all tried to top each other in the aim of impressing their common client. Gloria (48 years old), one of the lead PR experts in this campaign, was extremely proud of the documentary-like YouTube series that she and her team had produced. She explained that what made these videos effective was that they were not outright lies, but that they were based on "truths, but slightly fudged."

Meanwhile, digital influencers needed to be competitive with their fellow influencers even when working on the same team and reporting to the same lead PR strategist. Influencers were compensated based on a competitive matrix of reach and engagement that meant that those whose posts went viral were rewarded with higher pay and other bonus rewards such as the latest iPhone model or a meet-and-greet with a top-level celebrity. Influencers with existing relationships with the PR strategists were familiar with these pay arrangements as they often follow the same model as their corporate marketing gigs. But unlike corporate gigs in which brands have more of a say about both tone and content, influencers used toilet humor or gutter language for a political campaign as politicians did not sign off on campaign executions or review postcampaign reports.

In the next two sections, we underscore two problematic implications of networked disinformation. One is that it pushes producers to compete and outdo each other to craft messages with the greatest potential for attention-hacking. Second is that it also allows disinformation producers to invoke moral justifications that minimize the pernicious impact of their work.

Competitive Collegialities Lead to Volatile Virality

As we indicated above, the distributed labor structure of disinformation projects led the workers within and across teams engaged in a constant one-upmanship. This meant that although campaigns were designed at the top with a certain objective, distributing the execution of this objective among workers led to unpredictable consequences.

Lead strategists required the promotional labor of digital influencers who were more fluent with popular vernaculars and were able to weaponize these into effective social media posts that mobilized public sentiments of anger and resentment. Conversely, influencers and fake account operators also needed the chief strategists to broker projects for them. The strategists did the crucial work of interfacing with clients who did not necessarily wish to know all the lurid details behind the viral hashtag campaigns they paid for. In effect, strategists legitimized disinformation projects for both their clients and their team of digital workers.

During the course of our fieldwork, we came to a gradual understanding of how strategists used euphemisms for "fake news" and "trolling," drawing from industry jargon as ways to neutralize stigma not only when they spoke to us as researchers, but also when they pitched their services to political clients. For example, in our interview with the 29-year-old digital strategist Aisa, she proudly claimed that her firm never used "fake news" in promoting a mayoral candidate, but mentioned instead how they relied on "supplemental accounts" to amplify posts from that mayor's official Facebook page. From our digital ethnography, we compared what she said with what their firm actually did and discovered how those "supplemental accounts" were Facebook pages that claimed to curate independent local news but were insidiously seeding manipulative memes promoting their mayoral candidate. Another strategist, Grace, meanwhile used the term “digital support worker” in interviews. We figured out over time that this was a PR industry term Grace used as a catchall when she justified her staff budget of fake account operators to her political clients.

On some occasions, campaigns led to online discussions with greater vitriol than strategists intended. As influencers were incentivized by strategists along a competitive matrix of reach and engagement, some ended up producing offensive content that was not agreed on at the beginning. For instance, one particularly racist meme that attempted to humiliate a politician for having dark skin went viral as it tapped into deep-seated postcolonial racial hierarchies in the Philippines (see Cabañes, 2014). The strategist we met explained that although the team did plan a coordinated attack, she said that she was frustrated how her team of influencers had “gone too far.” We interpreted the strategist’s frustration as less rooted in moral indignation around racism and more about how the attack almost backfired and created an underdog and victim position for their rival.

Again, the major consequence of competitive collegialities was the displacement of responsibility for the outcomes of networked disinformation. Most workers in the disinformation architecture were focused on staying ahead (for the strategists) or, more desperately, getting ahead (for the influencers and the fake account operators). As such, no one wanted to address or assume accountability for the misogyny and racism, among other things, that emerged in the aftermath of networked disinformation activities. None of them was interested in self-regulation.

Entrepreneurial Trolls’ Moral Justifications

The second consequence of the architecture of networked disinformation was that it enabled the disinformation producers to invoke moral justifications that not only minimized the pernicious impact of their work, but that also displaced it too. Here, we begin with the chief disinformation architects at the top of the hierarchy. During our fieldwork, we met 40-year-old Dom, who we heard from key informants in the advertising and PR industry has a long record of handling high-profile candidates including presidential aspirants. We learned during our interview that she is known by her peers as a seasoned creative director, particularly for her skill with coming up with clever corporate taglines. Speaking to us in her luxury apartment in Manila’s business district, she described her work as a political consultant as a more thrilling and challenging version of her everyday work handling corporate brands.

It is evident that strategists like Dom relished the thrill and adrenaline rush they got from their risky projects. She told us,

> Maybe if I had this power 10 years ago, I would have abused it and I could toy with you guys. But now I’m in my 40s, it’s a good thing I have a little maturity on how to use it. But what I’m really saying is we can f*ck your digital life without you even knowing about it.

Moments like these in our fieldwork reminded us of the power these high-status and well-connected strategists wielded over us as researchers, but also over the hapless folks in the industry who might have crossed this woman.

At the same time, however, strategists like Dom expressed discourses of gamification and fictionalization to justify their work. They drew from cultural scripts from Western entertainment to fictionalize the dangerous consequences of their actions and block feelings of real involvement. For example, the PR strategist Grace compared herself with the popular *Game of Thrones* character Olenna Tyrell, who invisibly orchestrated the death of a king in the hit HBO show: "Other people like taking credit for trending-*this*, campaign-*that*. But not with me. I like working from the shadows, you know, like Olenna Tyrell. Nobody needs to know it was me!" This suggested to us too that some ad and PR strategists managed personal strategies of evading accountability and psychological distance from the disinformation materials actually produced. Ad and PR strategists saw themselves as taking on the more professional work of crafting campaign objectives and messages when compared with the digital influencers who had to do the dirty work of translating their objectives and messages into actual social media content.

Ad and PR strategists also explained that digital operations were an opportunity to disrupt existing social hierarchies and challenge established power players in political campaigning. As 28-year-old Rachel shared,

> I'd actually like to phase out our company practice of paying out journalists to seed or delete news because they can be entitled or unscrupulous. The reason why I'm more passionate and committed about online work is because I don't like the politics in journalism.

In this quote, it is interesting how their cynicism about mainstream media is used as a moral justification to dispose of institutionalized practice by replacing it with another version equally lacking in scruples yet ultimately benefiting themselves. By expressing statements that exaggerate evil or corruption in existing public institutions, these ambitious workers imagined themselves as agents that could even bring about innovation without accepting moral responsibility for their own actions (for a related analysis of cynicism in media practice, see Roudakova, 2017, chapter 4).

Meanwhile, for the anonymous digital influencers we met, the casual and short-term nature of disinformation projects meant that they could downplay their involvement in it. Because the work was just one sideline gig they juggled with others, they could tell themselves that fake news did not define their whole identity. For example, we met 28-year-old transgender Georgina who operated by herself six anonymous accounts and worked with her other transgender friends for corporate and political marketing projects that needed signal boosting on Twitter.

She explained, "Being a character or a 'pseudo' is only very fleeting because you are not the person. You just assume that personality. You trend for a while and then move on." We found out that Georgina's day job was in search engine optimization, helping clients improve their Google page rank. An early adopter of new technology, she claimed she had always been fascinated by new financial opportunities offered by digital platforms. When she grew in her understanding of the influencer industry a few years ago, she created a meme account and steadily grew its followers seeking daily inspiration from its feed of feel-good positivity quotes. Eventually, she was hired to promote campaigns for local telcos, then celebrities and their movies, then political clients.

As part of the aspirational middle class, anonymous digital influencers were driven by financial motivations in their disinformation work. They previously endured less stable jobs in the creative and digital industries and see influencer work as giving them more freedom, including when choosing clients. We found out that disinformation projects occasionally meant being in an aspirational work environment. The influencers we met recalled with pride how they did campaigns while booked overnight in a five-star hotel suite or in a mansion in a gated village.

At the bottom level, community-level fake account operators cited primarily financial motivations for engaging in this kind of work—extra work for extra cash. Most of the respondents in our study were (a) fake account operators working within politicians' own administrative staff. These were usually junior-level employees tasked to "help" with a political campaign, and they usually begrudged the fact that there was no additional pay for this kind of publicly derided work they did not sign up for. Other fake account operators were (b) freelancers paid on a per-day basis on achieving a set number of posts or comments and (c) office-based fake account operators who worked in a call center kind of arrangement, some of whom operated in provinces that were bailiwicks of politicians.

Many fake account operators appeared to be workers who had previously tried out other risky enterprises as a means to achieve financial stability. Although in many cases fake account operators colluded with people who offered financial rewards in exchange for accomplishing morally sketchy tasks, we also heard stories of subtle forms of resistance from within a disinformation project.

For instance, in 26-year-old law student Risa's case, we found an example of a reluctant worker who resisted and very likely sabotaged the fake account operations work she was compelled to do. Reporting to a very domineering, take-no-prisoners chief of staff of a fledgling mayoral candidate in one of the largest cities in Metro Manila, Risa and her cohort of fresh college graduates could not but agree to do the shameful work of creating fake accounts and trolling Facebook community pages. What was worse was that this was additional work, without additional pay. In election season after all, taking on additional work showed *pakikisama* [getting along with others] and *utang na loob* [fulfilling debt obligations], especially for young people fresh out of college.

Following the example of the chief of staff who maintained two fake accounts herself, Risa and her colleagues were tasked to come up with fake profiles and populate a Facebook group dedicated to the city they were trying to win. Although Risa did not admit it during her interview, it seemed to us quite probable that she intentionally sabotaged her own fake account. She told us she had only become Facebook friends with 20 people, unlike her other colleagues who maintained "bikini troll" accounts that lured 500 new friends with overtly sexual profile pictures. Unlike her colleagues, Risa never spoke about the "thrill" of creating viral memes. The discomfort was evident in her body language during the interview: Her narration was slow and stilted, as if the words brought her physical pain the moment they left her body.

Risa's case, along with other disinformation producers' experiences, suggested to us the ease of corruptibility within established systems of corporate marketing, digital influencer work, and political administration. Disinformation production has become an add-on to a portfolio of marketing services, particularly in the absence of any self-regulation mechanisms for political consultancies and digital advertising. In the Philippines, there are no existing frameworks promoting transparency in political consultancies and digital PR. The creative industries have self-regulatory bodies to monitor corporate brand claims and promises, but there has yet to be any systematic tracking or monitoring of marketing firms that take in political clients. In the concluding section, we offer reflection on the opportunities as well as risks that production studies have to offer for disinformation studies.

Trade-offs of a Production Studies Approach to Digital Disinformation

By exploring disinformation workers' social identities and moral justifications, this article has offered insight into how fake news is not just a matter of political leadership, angry populist fervor, or technological innovation, but also an issue of political economy. Political trolling has become a lucrative sideline that is widely available for entrepreneurial workers within in a country at the forefront of both the high-status creative digital economy and its underbelly of low-status outsourced jobs from call center work (Graham et al., 2017) to commercial content moderation (Roberts, 2016). This expanding industry thrives in "structures of disprivilege" (Udupa, 2019) that impels a large number of social media entrepreneurs to cater to the demands of the digital underground. Our description of an advertising and PR work model of "networked disinformation" has more similarity to large democracies with strong personalistic political systems such as India, a country where advertising and PR executives also moonlight as political consultants for maximum profit and little political accountability (Udupa, 2019). But they can broadly apply to Western liberal democracies with image-based political cultures, relying on image consultants from the PR industry in which "disinformation is in the DNA" (Edwards, 2019 [blog]). Our descriptions of precarious digital labor are also relevant to understanding the work contexts of Russian troll workers and Chinese 50-cent army workers, although our account emphasizes a more creative and networked aspect to disinformation production that is not centrally commanded.

A production studies approach thus sheds light into how digital disinformation is not an all-new Duterte novelty; it is in fact the culmination of the most unscrupulous trends in the country's media and political culture. Many of the techniques of disinformation were first tried and tested in marketing shampoos and soft drinks before extending them to marketing politicians and their narratives. The difference is that seeded hashtags that aim to drown out dissent pose greater dangers to political futures.

In conclusion, we find it important to acknowledge the conceptual as well as political trade-offs in taking a production studies approach to digital disinformation. We only hope that our study as well as our policy lobbying efforts alongside civil society watchdogs in the Philippines complement, rather than replace, other interventions such as journalists' reporting and civil society lobbying for more investment in platforms' content moderation of hate speech.

The first trade-off of a production studies approach is that instead of naming and shaming high-profile personalities, it maps out the broader system and incentive structures to fake news production. For us, this offers a corrective to current initiatives dedicated to fact-checking fake news. As Whitney Phillips (2018) warns, some fact-checking efforts potentially popularize, or “oxidize,” bad content by playing into the very intentions of media manipulators to influence the mainstream media agenda. By focusing on structures rather than individuals, we cut short the news cycles of attention hackers’ shocking headlines and focus on foundational ethical flaws in political marketing and digital influencer practices. A less personality-oriented approach also enables us to capture the micro-level influence operations at work instead of just the easy targets.

The second trade-off is that instead of mobilizing a heroes-and-villains frame when talking about fake news, we reflect on everyone’s “complicity and collusion” in its practice (Silverstone, 2007). Although our production studies approach means we are unable to serve in the frontlines along with Filipino journalists directly speaking “truth to power” against Duterte’s violent regime, we can instead call out the broader network of disinformation architects serving less controversial politicians that use the same disinformation tactics but escape the glare of observers. Journalists themselves have also been unable to hold accountable the advertising and PR strategists behind digital disinformation campaigns as these powerful individuals control the corporate advertising money that their news agencies greatly depend on. In this light, we see our work as also speaking “truth to power” to those in high positions of economic power in the creative industries who consider themselves “kingmakers” in the political realm. Our ethnographic descriptions of various workers’ complicity and collusion in disinformation production challenge us to move beyond partisanship in fake news moral panics discourse and call out politicians and workers complicit in this practice wherever they may fall in the political spectrum. We argue that journalists who tend to overemphasize “fake news” as merely a Duterte phenomenon or a recent case of state-sponsored propaganda run the risk of enabling the entrenchment of amoral disinformation architects in the political system. This simply allows disinformation architects to slip undetected, engineer more innovations, and ally with new political patrons that offer them power and protection for the next election cycle.

Finally, the third trade-off of a production studies approach is that instead of focusing policy lobbying efforts at global-level content regulation by the tech platforms, we highlight local-level process regulation aiming for transparency in the context of political campaigns and influencer marketing. We observe worrying trends of content regulation in neighboring Southeast Asian countries where “anti-fake news laws” have been weaponized by government to censor dissenting voices and silence the opposition in social media (George, 2019). A production studies approach would mean rejecting illiberal responses of censorship for process-oriented responses that aim for transparency and accountability in the conduct of political consultancies, election campaigning, and influencer marketing.

Our ethnographic approach begins with an imperative for empathy to understand the conditions that push people to engage in precarious disinformation work, but this does not mean we absolve these workers of their lack of ethics and accountability. In fact, we assign greatest responsibility here on the top-level advertising and PR strategists and their political clients who benefit the most from the architecture of networked disinformation.

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Material Mediations Complicate Communication Privacy Management: The Case of Wilma in Finnish High Schools

ASKO LEHMUSKALLIO
Tampere University, Finland

AIRI LAMPINEN
Stockholm University, Sweden

Increasingly, school settings are implementing digital technologies to coordinate teachers' work. This article examines the role of these technologies in teachers' boundary regulation processes through the lens of communication privacy management theory, and it provides empirical insight into the renegotiation of being a teacher in the presence of rules formalized in software code. The case of Finnish high school teachers exposed to the use of Wilma, a distributed computing system used to store, process, and transmit student data, revealed experiences of a need to renegotiate formalized and trackable work processes, faster and more colloquial communication, and intensified day-to-day work. These influence modes of accountability and the need to negotiate visibility, along with understandings of rules as a central coordination mechanism for interpersonal boundary regulation. The authors suggest in addition that these technologies inure various social stakeholders to constant technical monitoring and regular accounting, thereby advancing the normalization of surveillance practices. This creates good reason to pay closer attention to how rules of engagement may be coordinated.

Keywords: communication privacy management, boundary turbulence, rules, social media, boundary regulation, high school, education, formalization, surveillance

Digital technologies are increasingly implemented in school settings to facilitate education, streamline communication between teachers and parents, and to monitor both students' and teachers' performance. Even if implemented with good intentions, they have started to influence social relations at schools in unforeseen ways. The growth of tracking and accounting for one's actions, coupled with amassing of information on successes and failures in huge databases, has muddled the "rules of engagement." In our experience, it is not uncommon for high school teachers to maintain that the boundaries between teachers and students are now blurred, that they find this problematic, and that they associate it with the implementation of digital technologies.

Asko Lehmuskallio: Asko.Lehmuskallio@tuni.fi
Airi Lampinen: airi@dsv.su.se
Date submitted: 2019–01–10

As characterized by Petronio (2002), fuzzy privacy boundaries are a possible source of boundary turbulence. The affordances of novel communication technologies complicate boundary management by introducing parallel mechanisms for coordinating social interactions that differ greatly from earlier modes of communication. Their implementation is an opportune moment for reevaluating how coordination is handled because earlier rules of engagement need to be modified and adjusted. Our recent interviews with high school teachers, however, show that this blurring of privacy boundaries, with the associated turbulence, remains poorly understood once digital communication technologies are deployed in their workplace and in society at large.

In diverse countries, among them the United States, Switzerland, and Finland, schools have implemented systems for reporting incidents internally and to communicate conveniently with relevant stakeholders, such as the parents. In Finland, where these systems have been in use since 2000, most schools have implemented the Wilma distributed computing system, by StarSoft, to store student data in preconfigured databases, process the data in accordance with prescriptive rules, and transmit the resulting information to selected parties. In 2013, StarSoft reported that Wilma is used in more than 95% of primary and secondary schools in Finland, and its acquisition in 2016 by Visma heralded its introduction for higher education facilities and kindergartens. With its rules, the system influences norms as to how teachers "should" act, thereby ushering in situational uncertainty related to social roles. Moreover, using Wilma is compulsory for the parents, too—at least if they want to be informed of changes in class schedules, see requests related to sports practice, and the like. These developments gave impetus to our study of high school teachers' experiences of Wilma and its impacts on interpersonal boundary management.

Our study was grounded in Petronio's (2002, 2013) communication privacy management (CPM) theory, a rule-based approach that extends Altman's (1975) early work to account for complexity in boundary management processes. The concept of rules is important in CPM, where it can be understood to refer to an ad hoc situational guideline for determining what kinds of information to reveal, to whom, and when, by placing particular emphasis on social context. Recently, CPM theory has been applied in an educational context, with scholars such as Hosek and Thompson (2009) studying how privacy rules are developed and privacy boundaries are coordinated in a university context and within the student–teacher relationship. This article answers Hosek and Thompson's call for research that addresses how the Internet affects boundary regulation in schools. In doing so, it builds on and complements CPM scholarship on computer-mediated communication and interpersonal boundary management (Child, Haridakis, & Petronio, 2012; Child & Westermann, 2013; DeGroot & Vik, 2017; Frampton & Child, 2013; Imlawi & Gregg, 2014; Lampinen, 2016; Litt & Hargittai, 2014; Palen & Dourish, 2003; Petronio, 2013; Pike, Bateman, & Butler, 2009; Stutzman & Hartzog, 2012; Vitak & Kim, 2014).

Our study focused on the role that material mediations play in boundary regulation processes, specifically by providing empirical insight into the renegotiation of being a teacher in the presence of rules formalized in software code. Lauer (2012) has argued that 19th-century inventions, including photography, the phonograph, and the telephone, have contributed to the proliferation of evidence-producing communication technologies—or even an evidential paradigm—and thus to the intensification of contemporary surveillance. That perspective only accentuates the need for further research on privacy management in conditions of electronic surveillance in the workplace and as surveillance is becoming normalized, at least in terms of what young people accept as part and parcel of full participation in social life (Fulton & Kibby, 2017). Whereas Allen, Coopman, Hart, and Walker (2007) examined the establishment of privacy boundaries during new-employee orientation, we turn our attention to a case wherein the organizations change as new technology gets introduced. Although teachers have long needed to adjust to codes of conduct enshrined in legislation, national curricula, and school-specific guidelines, the obligatory use of particular software in teaching influences the flexibility of making personal choices, based on the teacher's professional discretion, and it changes patterns linked to teachers' accountability for their work. We address the roles played by various communication media in the renegotiation of privacy boundaries, placing emphasis on the complex mediated entanglements within which teachers navigate socially (Vigh, 2009). In addition to CPM scholarship, we thus contribute to computer-supported cooperative work scholars' research on affordances and relational infrastructures (Bowker, Timmermans, Clarke, & Balka, 2016; Guribye, 2015; Schmidt & Simone, 1996) and also to the growing body of research in media studies (Evans, Pearce, Vitak, & Treem, 2017; Gillespie, Boczkowski, & Foot, 2014; Marwick & boyd, 2014; Schüttpelz, 2016).

We will begin by describing Wilma, the software system at the center of our analysis, and introducing our theoretical framework and the setting for our study. We then present our analysis of teachers' experiences of Wilma, elaborating on how the software system formalizes work processes and renders them more traceable, supports faster and more colloquial communication, and intensifies the day-to-day interactions at work. The introduction of Wilma in schools transforms rules for boundary linkages, boundary co-ownership, and boundary permeability.

The Wilma Software

Wilma has become a central coordination tool in Finnish school settings. It includes a set of rules addressing how to archive, process, and transmit information that pertains to everyday activities in schools. Wilma's Web-based interface enables students, teachers, and parents to follow and coordinate education work, with the back end involving databases provided via two separate programs, Primus and Kurre, to enable management of student- and education-related school matters. In line with our interviewees' practice, we refer to the entire bundle of software (composed of the Web-based interface and the databases) as Wilma.

Wilma provides channels for one-to-one and one-to-many communication among teachers, students, and the students' guardians. Some interviewees compared Wilma's messaging functionality to instant messaging and others to e-mail. The messaging function can be used by any parties to communicate with any others, except that parents cannot send messages to students. Wilma's functions are categorized by the action involved, helping people organize, report, and share information related to day-to-day school life. In essence, Wilma provides a discipline mechanism applied for reporting school-related data to the stakeholders. It aids the school in its work as a broader disciplinary institution, helping to form students' bodies into societally desired ones, as "primuses," as literally suggested by the database name.

The various stakeholders differ in their access and communication rights and hence experience the system in different ways. Each group interacts with a Web-based interface tailored to that group and personalized for it and its individual members. Instead of allowing users to add "friends" and thereby determine the sets of people they interact with, as is typical of social-network services in the leisure domain, Wilma establishes an online social network for each individual, based on that person's role in the social world of the school.

Teachers, including the principal and school counselors, have the most extensive access rights, with the principal having access to all content, the study advisers to most, and the teachers to information on the school in general and on the groups and individual students whom they teach. Teachers use the system both for gathering and tracking data about students and for communicating with students, other teachers, and parents. The students, in turn, obtain general information related to the school and their curriculum, their grades, and their absences, whereas parents (or other guardians) get information about the child and the school in general. Students are able to access their own data and communicate with school representatives. Parents, too, can access the relevant student's data. They can also use Wilma to communicate with teachers. If this is not outright required, they are at least very strongly encouraged to do so.

Theoretical Background

We subscribe to scholarship arguing that privacy should be considered explicitly in its social context (e.g., considering contextual integrity; see Nissenbaum, 2010) and with sensitivity to the networked character of digital social interaction, especially such elements as networked privacy (see Marwick & boyd, 2014). Literature on interpersonal boundary regulation and CPM (Altman, 1975, 1977; Petronio, 2002, 2013) has offered models for considering negotiation of privacy within a broader social context. One premise of that work is that humans as social beings take up roles in interpersonal interaction and may behave differently in keeping with the particular situation in which they find themselves. The same individual might talk, walk, and think differently when acting as a teacher than when filling the role of a friend, a tourist, or a spouse. These regulation mechanisms can be employed not only by an individual but also by groups of people, who may regulate their boundaries together (Altman, 1975; Petronio, 2002).

Boundary Regulation as an Interpersonal Process

Altman is commonly credited with providing a framework for understanding boundary regulation as an interpersonal process. His framework is widely used in research on computer-mediated communication (see, e.g., Palen & Dourish, 2003; Stutzman & Hartzog, 2012) and is of particular importance for recent work employing Petronio's (e.g., 2002, 2013) approach to CPM (Child et al., 2012; Child & Westermann, 2013; DeGroot & Vik, 2017; Frampton & Child, 2013; Litt & Hargittai, 2014; Pike et al., 2009; Vitak & Kim, 2014).

The starting point here is an individual who, irrespective of cultural variation (Altman, 1977), needs ways to manage a "satisfactory match of desired and achieved privacy" (Altman, 1975, p. 26). In Altman's model, privacy is a dialectical process that is influenced by the inputs from others to an individual and the outputs that the individual gives to others. Excessively little interaction leads to social isolation, and too much yields feelings of crowding and intrusion. According to Altman, boundary regulation processes are essential for defining boundaries of the self. The means to control, define, and observe boundaries give agency to the individual, who is considered able to regulate the boundaries in an effort to make sure the level of privacy desired and the level achieved match.

Communication Privacy Management Theory

Petronio took Altman's approach further by developing CPM theory, which focuses explicitly on the ways in which individuals and groups decide how to regulate the revealing or concealing of private information and provides more in-depth understanding than does Altman's fundamentally cybernetic model. Petronio (2002) suggests that "when we reveal, we disclose private information" (p. 5). The definition is narrowed down by suggesting that private information is something individuals consider to have personal ownership over (Child & Petronio, 2011, p. 23) and that individuals develop and apply rules to control information flow (Petronio, 2002). From these starting points, she goes on to characterize boundary regulation as a rule-based management system that individuals and groups employ for deciding to whom private information is to be disclosed and from whom it is to be withheld (Petronio, 2002, p. 86). Once an individual shares a particular piece of private information, that information becomes collectively co-owned by those among whom it is shared. In sharing, the individual applies rules addressing with whom to share what kinds of information, when, and under what circumstances.

Petronio's rule-based rendering of how information flows are controlled in social interaction pays particular attention to this collectively co-owned information and to how people manage collective boundaries, such as those within families, in groups of friends, or among work colleagues (in our case, teachers). Scholars of CPM posit three types of rules that are used to coordinate the flow of private information and manage collectively held boundaries (Child & Petronio, 2011, p. 24; Petronio, 2002). First, privacy-boundary permeability rules are rules that individuals and groups develop and employ for regulating the kind and amount of private information that they disclose to others. These might be very rigid, allowing very little private information to be revealed, or rather loose, restricting the revelation of only a few specific types of private information. Second, privacy-boundary ownership rules are applied to regulate who possesses specific types of information. When disclosing private information, an individual might, for instance, reserve the right to decide on those to whom others are allowed to reveal the information. Finally, privacy-boundary linkage rules are rules that individuals and groups apply to decide on the people to whom private information is linked and, thus, whose concern the private information is going to be. For example, people in certain professions, such as teachers or police officers, are required to reveal private information to state authorities when that information may indicate harm to people or damage to property.

Boundary Turbulence and the Notion of a Rule

Central to both Altman's and Petronio's approach is the understanding that individuals must proactively regulate interpersonal boundaries and that if they do not do so, they risk not having a "satisfactory match of desired and achieved privacy" (Altman, 1975, p. 26). When expectations have not been fulfilled, boundary turbulence occurs, and rules for regulating private information have to be renegotiated. Petronio (2002) notes that "turbulence occurs when the rules for managing the tensions between privacy and disclosure somehow fail to be coordinated among the boundary members" (p. 19). Accordingly, although rules are situational and contextually applied, some rules gain stability by being repeatedly used or with the expectation of use. These rules may be maintained by an individual, dyad, or collective, as in the case of rules on disclosure of family or corporate affairs. While boundary turbulence may take many forms, it—as the word "turbulence" suggests—describes a situation of confusion or conflict, found when outcomes are not in line with the desires and expectations of those involved. It follows that, in many cases, active coping strategies are developed for dealing with boundary turbulence.

The notion of a rule, although central for description of communication privacy theory, is, again, very broadly defined in Petronio's (2002) work. She presumes that "private disclosures are dialectical, that people make choices about revealing or concealing based on criteria and conditions they perceive as salient, and that individuals fundamentally believe they have a right to own and regulate access to their private information" (p. 2). Although Petronio describes rule management processes as central to her framework, "rule" seems to denote primarily a situational heuristic that is contextually applied. Hence, rules are not fixed ab initio, but change over time, may be not adhered to in some cases, and can be renegotiated. By its very nature, the "rule" structuring device that is so central to the theory is flexible, malleable, and adjustable.

Activated Affordances and Relational Infrastructures

There is an important difference between the notion of rules as discussed by Petronio and rules as implemented in a software system such as Wilma: Whereas Petronio's understanding of a rule refers to situated, often ad hoc, guidelines for determining what kind of information to disclose to whom and when, algorithmic systems, including Wilma, rely on rules that have to be explicitly laid out in software structures. This formalizes the sequence of operations, leaving less freedom and flexibility for pursuing boundary negotiation. These kind of computing systems thereby formalize social relations, transforming how they may be upheld and negotiated. The clash between negotiable rules, as described in CPM theory, and the formal, often immutable rules of software systems merits closer attention.

In considering how material mediations complicate boundary regulation, we draw on literature on affordances and relational infrastructures. Gibson (1988) coined the concept of affordances to describe the relations between human beings (or animals) and objects in their environments. While, for example, some objects afford humans' throwing of them, others may be too large and heavy, thereby giving greater affordance to such actions as standing or sitting on them. Media scholars have increasingly focused on affordances (Evans et al., 2017) to aid in explaining medium-specific differences in the use of communication media. In our understanding, affordances are not necessarily noticed; they have to be activated as part of meaningful actions (Lehmuskallio, 2012).

We use the concept of activated affordances to pay specific attention to the relations that teachers take with the various devices when using Wilma and how these, together with the software, afford medium-specific actions that have an impact on interpersonal boundary regulation, as outlined in CPM. These affordances have to be activated as part of interpersonal interaction, and this activation is situationally and contextually negotiated.

Importantly, software systems do not become visible only as part of specific interactions (e.g., affording specific types of communication)—they are part of relational infrastructures. These are embedded and transparent; embodied in keeping with standards and linked with conventions of practice; built for a base of existing structures, with membership and learning of their use bound up together; and visible only upon breakdown (Bowker et al., 2016; Star & Ruhleder, 1996).

A focus on relational infrastructures allows us to point toward the spatiotemporal settings in which Wilma is embedded, and it enables discussion of how these influence boundary negotiation. For example, software systems are presented somewhat differently on the basis of who is using them, while maintaining a recognizable common identity across sites. In CPM theory, rules are negotiated at both the individual-level and collective-level boundaries. Instances of boundary turbulence serve as lenses for examining the effect of activated affordances on boundary-negotiation processes at both levels. Because we consider infrastructures to be relational, we focus on negotiation processes of one particular social group at schools—teachers—and their activation of particular affordances, specifically those related to Wilma. By taking on the case of Wilma in Finnish high schools, our work addresses how material mediations affect the management of communication privacy in the presence of rules formalized in software code.

Material and Methods

Our study examined teachers' experiences of using a specific online social-network tool and database application, for purposes of yielding insight into its role in their boundary-regulation processes. To this end, we examined the values and objectives built into Wilma, as they may be revealed by Wilma's main features and the types of action it allows for and encourages, and how teachers perceive its impact on their experiences of everyday school life in light of these. The data were collected by applying an approach similar to the walkthrough method (Light, Burgess, & Duguay, 2018) in going through the actual user interfaces used by selected high school teachers. Data were provided also by the software company's demo mode, which is used to sell the software to educational facilities. Our analysis of Wilma was complemented with examination of material from nine semistructured one-on-one interviews with Finnish high school teachers. The participants were recruited from public high schools in the Helsinki Metropolitan Area, where Wilma has been in long-term use. In the invitation, we asked teachers to take part in a study on the effects of the increasing everyday presence of various ICTs on their work and leisure. Of the nine interviewees, four were female and five were male. One had begun teaching only recently, whereas others had extensive experience. All participants used Wilma and other ICTs implemented in their school's work flow as a part of day-to-day professional life, although to a varying degree and with variable enthusiasm.

A transcription service was used for translating the interview data into textual form, and the two authors then collaboratively conducted thematic analysis (Braun & Clarke, 2006). The analysis focused specifically on understanding how material mediations complicate CPM, by coding relevant sections of the material and then interpreting these in more detail in reference to the empirical material and related literature. We regularly discussed findings and their interpretations by meeting in person and online. After several rounds of meetings, we concluded that thematic saturation (Guest, Bunce, & Johnson, 2006) had been achieved and deemed further interviews unnecessary. The interview excerpts presented below are translated from the original Finnish, with the aim of achieving accuracy in both meaning and style.

Findings and Interpretation

Our analysis focused on teachers' accounts of boundary turbulence, their perceived needs for CPM, and the changes in codes of conduct they associate with the introduction of ICTs at schools in general and that of Wilma in particular. We illustrate the influences in terms of the boundary-negotiation dimensions outlined by Petronio: privacy-boundary linkage rules, boundary-ownership rules, and boundary-permeability rules.

The First Major Theme: Formalized and Trackable Work Processes

Wilma transforms how teachers contact parents, students, and fellow teachers. The rules specified within the software influence how individuals may act in the role of teacher, parent, or student. Wilma, as a software system, is built with logical sequences and formal rules in mind. Teachers are made accountable about how they follow specific instructions, without as much room for flexibility and renegotiation as is found in face-to-face encounters. This increases the likelihood of boundary turbulence.

Automation of Boundary Linkages

Boundary linkages are the connections made to other people, extending privacy boundaries from individuals to dyadic and larger-group relations (Petronio, 2002, pp. 29–30). Making some linkages is expected. For example, when a student arrives at school late, the parents should be notified, and students should be informed in advance when a class is rescheduled. Wilma is used for exactly these types of purposes. Not all communication flows via Wilma, however. Instead, some individuals resort also to e-mail messages, social-network sites, phone calls, text messages (SMS), and face-to-face meetings. This makes it more challenging to coordinate communication flows in line with everyone's expectations and can lead to boundary turbulence.

Wilma automates some of these boundary linkages. This is in line with descriptions found in classic computer-supported cooperative work literature on work-flow systems wherein "formalism makes it possible to embed the categorisation into a computer system [with] parts of this formalism . . . entirely automated by the system" (Grinter, 1997, p. 173). All users receive particular access rights within Wilma, with their assigned roles determining their access to input information. This influences the possibility of negotiating boundary linkages because the ad hoc property familiar from face-to-face rule use is lost. The use of varying degrees of boundary linkages, commonplace in teachers' work, is more difficult to control: Because the details are disseminated to a predefined group, everyone receives the same information.

Punishments meted out for discipline are registered in Wilma under the heading "detentions." The user interface for teachers provides access to data about punishments for all students at their school, even those a particular teacher does not teach. This boundary linkage extends teachers' knowledge of the schools' students significantly beyond that in earlier forms of boundary linkage, wherein similar information would travel, but less systematically, through discussions among teachers.

Permanence of Boundary Co-Ownership

Boundary linkages lead, in turn, to boundary co-ownerships. These need to be negotiated: Once private information is disclosed, the rules for rights and privileges related to the disclosed information must be agreed upon, if particular behavior is to be expected (Petronio, 2002, pp. 30–31). In schools, teachers are subject to various rules arising from their role, of which many are legally binding. Additionally, teachers have regular faculty meetings, where they may collectively discuss newly arisen issues. Many also speak directly with a few colleagues about the issues they face.

Wilma's automation of boundary linkages, coupled with the permanence of the communications entered in the system, leads, at times, to problems related to boundary co-ownership. To aid teachers in aligning their communication correctly, Wilma has inbuilt text corpora that present modes of address suggested as appropriate. The software provider has also published a guidebook, *Communicate Wisely With Wilma*. The guidebook notes the following:

> The modes of addressing legal guardians are surprisingly important. Those kinds of messages seem to work best that (1) in addition to pointing out a problem also mention how the teacher would like the student to behave in the future and how this is useful, (2) say something that creates a belief in a positive outcome, and (3) ask the guardian for help or advice. (Furman, 2013, p. 4, authors' translation)

The descriptions of these rhetorical means, with templates provided in software as concrete examples, give teachers guidance for particular modes of address. The guidebook recommends explaining explicitly to parents how the teacher wishes the student to act in future, and why. Additionally, the message should contain a positive statement, showing belief in positive change. Finally, the message should underscore the role of the parent as the foremost expert on the child.

Because these modes for boundary linkages and co-ownership do not always meet the expectations of the stakeholders involved, the guidebook stresses a need to circumvent some of the elements inherent to Wilma if boundary turbulence with parents does occur. Especially recommended, also according to the interviewees, is the technique of not leaving traces of communication in the system if a parent is particularly strident, demanding, or even hostile. The guide recommends always communicating in person or by phone in these cases. This is in clear parallel to literature on how technology formalizes work flows and how people find ways to work around constraints that impede them from reaching their goals and collaborating with others (e.g., Bowers, Button, & Sharrock, 1995; Lee, Kusbit, Metsky, & Dabbish, 2015). Although this leaves more space for negotiation and can counteract the system's tendency to increase the tracking and surveilling of individuals' actions, it is also used to reduce teachers' liability in cases of conflict.

The Second Major Theme: Faster and More Colloquial Communication

In the experiences of the teachers we interviewed, ritualized modes of communication, focusing on creation of an interpersonal setting for mutual awareness, respect, and recognition, seem absent from much of the computer-mediated communication in schools. On account of their position in the school's hierarchy, teachers are used to being addressed with deference, and if they are not, computing technologies are held to blame for part of the perceived loss.

Changes in Communication Frequency and Modes of Address

Characteristics of communication technologies have an impact on the frequency of interpersonal contact and the modes of address that are used. Changes in these can result in boundary turbulence if communications are not consistent with expectations and relevant rules pertaining to deference and demeanor (Goffman & Best, 2005). Wilma is introduced not to a tabula rasa but in a particular sociotechnological environment that informs its uses. Another important source of norms related to Wilma comes from broader Internet cultures that espouse less formal modes of address, relatively short messages, and occasional bursts of frequent contact that subside quickly. Interviewee 1 stated,

> Fundamentally, a kind of modesty, politeness, and skill in argumentation is lacking in Internet fora . . . . This comes to mind as I listen to the self-centered ways in which students think, act, and talk. I don't know whether it's due to the Internet or due to the parenting.

The less formal modes of address are accompanied by discussion of topics that teachers do not consider appropriate to the sphere of a teacher–student or a teacher–parent relationship. Many teachers draw their boundaries such that hobbies, the precise location of one's home, or holiday plans remain strictly separate from the professional realm. Some students and parents do not respect these boundaries. Turbulence is perceived when matters considered private are addressed in interpersonal discussions, in a manner that pollutes the purity of the separation of social roles.

Increasing Boundary Permeability and the Difficulties in Closure

Questions about boundary linkages and co-ownership are related also to boundary permeability—that is, the amount of information that is revealed or concealed in any interaction. The degree of boundary permeability ranges from complex webs of restrictions to complete openness. Although teachers have freedom for negotiating how they desire to relate to students and parents, ICTs can promote connections that otherwise might not be made—for instance, when it comes to automated suggestions for creating links on Facebook, a social media service all stakeholders use alongside Wilma.

> Actually, I invited a few of them accidentally as "friends" . . . . It was at a time when I hadn't had much experience with social media. I just assumed there was a link to further friend invites. But then it was just the opposite; the software suggested friends, and new suggestions popped up. (Interviewee 2)

These nearly automated boundary linkages lead to boundary permeability that is not always obvious to all stakeholders. Seeing other parties' interactions from many realms of life is prone to prompt boundary negotiation. Excessive boundary permeability leads to situations wherein stakeholders become accidental co-owners of private information intended for other social domains. Because communication behavior from social-network services is seen spilling over to Wilma and into the classroom, some interviewees explicitly ask their students to change their way of communicating in these services, so as to "protect" modes of address in the school environment.

Although interfaces with others may be created via linkages, thereby opening a relationship, collapsed contexts in particular also lead to felt needs for closing those boundaries, effectively cutting off parts of one's communication network (for an overview of context collapse, see Vitak, 2012). Although

Wilma must be used in accordance with the guidelines set forth by the service providers and within the school, potentially permeable boundaries established by other communication technologies may be closed down more effectively.

> I've made it a principle not to accept students as "friends," not even if I'm able to not show them some of my own [social-network site] content. I decided to draw a line here. (Interviewee 3)

By negotiating sets of communication partners, media setting specifically, teachers get a sense of coping with the changes brought by ICTs. Yet these coping mechanisms are only partially effective, particularly as social media sites such as Facebook are designed to increase boundary permeability. Wilma and other ICTs introduced in schools provide additional flexibility with respect to some of the spatiotemporal constraints that teaching entails, but this flexibility itself is a source of new boundary turbulence. An extreme example of how teachers may cope with these pressures is one participant's choice of no longer having an Internet connection at home so as to protect the boundary between her home life and her professional role as a teacher.

The Third Major Theme: Intensified Everyday Experience at Work

Teachers need to coordinate choices pertaining to media use with students, students' parents, and the school's other teachers and staff members. This need becomes keener as the availability and variety of media increases, and because mismatches are likely to cause boundary turbulence. Moreover, the requirements for keeping records in Wilma up to date serve to intensify teachers' everyday work experiences.

Changes in the Variety of Communication Media Used

Wilma allows easy, quick access to other stakeholders via a computing terminal, even if those parties are not available instantaneously. This is considered a great improvement on the previous modes of contact, such as trying to reach someone by landline phone or face-to-face meetings at the school. Although Wilma has not fully replaced these communication media, they tend to be reserved for special occasions, for which Wilma does not seem an appropriate medium—either because of technical affordances or in light of social norms.

At the same time, while the use of Wilma is suggested, communication technologies tend to be introduced on an "installed base" of existing infrastructure (Star, 1999). Wilma functions as one possible medium of contact among many and may not supplant others:

> A guardian had sent an e-mail stating that a student won't be at school today. The teacher hadn't seen the e-mail and created a message in Wilma that the student has been away from school all day and the reason remains undetermined. The guardian had become angry, stating that e-mail had been sent and the school informed. So, I think guardians still expect you to read your e-mail every day. (Interviewee 4)

Wilma is designed to serve as an obligatory passage point in most teacher–parent communications (Callon, 1986), but it does not work as intended, because several parents expect teachers to check other communication media daily. E-mail, telephone calls, SMS messages, and messages sent via social-media services complicate the communication setting—one that was already spatiotemporally condensed into short breaks between classes— and lead to an intensified everyday experience.

Although the boundary turbulence caused by the disjunction in use of communication media between teachers and parents may be remedied over time—for instance, by instructing parents to contact teachers only via Wilma—there is a further complicating factor: Several students do not regularly check their Wilma accounts. This can make it hard for teachers to contact students outside class when doing so is necessary.

That has led several teachers to seek alternative means of reaching out, including the creation of separate social-network profiles on Facebook for contacting students. Some saw this as a fascinating new communication medium, but others expressed a fear that it could lead to further blurring of boundaries between teachers and students.

Constrained Settings for Using Wilma

Wilma demands use of particular times and places for contact. Users must access it via a computing terminal, which in schools is usually found in the teachers' lounge and some classrooms. This means that teachers' access to the software system is constrained to classrooms, the teachers' lounge, or to their personal computers at home. The coupling of the use of Wilma to particular locations influences teachers' whereabouts in the school, along with how they structure their use of work time. Because using Wilma is mandatory, teachers must find the time in the course of their day to supply Wilma with the required information. This can feel taxing:

> Unfortunately, we don't have enough computer terminals for teachers, and, since absences have to be noted as soon as possible in Wilma, it might happen that it's not possible to access a computer in the teachers' lounge in time. (Interviewee 4)

The combination of limited resources and a strict schedule for classes' start and end times means that terminals tend to get congested when the work day's schedule permits entering information. The constraints on settings for using the software system are considered a particular source of boundary turbulence, especially when teachers do not find an opportunity to report on events right after they have occurred so must remember the information until the next day. This affects the reporting, creating potential for delays and omission of information that should have been shared.

Discussion

The implementation of Wilma at schools, alongside other digital communication technologies, has increasingly formalized work processes and rendered them traceable. It has implicitly encouraged faster communication, in more colloquial styles, and has led to experiencing the everyday work environment as more intense. Flexible, heuristic rules applied in face-to-face settings need to be renegotiated in the presence of rules concretized in less mutable software code. Wilma makes these patterns clear. Importantly, systems of this sort, increasingly used in various countries, worldwide, play an integral role in normalizing being under digital surveillance while at work or at school (with regard to Facebook, see Fulton & Kibby, 2017; on electronic surveillance in the workplace, see Allen et al., 2007) while also eroding interpersonal relationships of trust between teachers and students. With the aid of communication media, responsibility for unpleasant interactions can be delegated to third parties, such as parents or the principal.

We can now examine the changes in accountability and the need to negotiate visibility that result from implementing such systems in school settings. These have implications for our understanding of rules as a central coordination mechanism in interpersonal boundary regulation.

Technical Accountability and the Need to Negotiate Visibility

Documents, traceable data, and formal registers have weight in accounting for who is responsible when something goes wrong, hence some of the emphasis in the Wilma guidelines for teachers on the importance of not discussing contested matters within the system, directing teachers to revert to talking face-to-face or on the phone, so as not to leave traces. Here, technical mediation comes to the fore in CPM.

Teachers need to negotiate particular forms of visibility in computer-mediated environments. Instead of just filling in what has happened, they need to do so in context-specific ways so as to avoid conflicts. This dilemma between a desire for data and a desire to avoid involvement in conflicts leads to partial truths in terms of the information collected and later used in the assessment of students' performance.

The insistence on collecting more fine-grained data of the everyday at schools, in a standardized form that can be stored in databases and later analyzed from various perspectives, links the introduction of Wilma in schools to other areas of society in which particular value has been accorded to data. This entered discussion several decades ago in relation to private companies with the notion of informating (Zuboff, 1988), and it has gained more and more attention lately under the rubric of datafication (van Dijck, 2014). As the amounts of information stored globally in digital form have surged, it is no wonder that associated questions of access, use, and rights related to data are being voiced ever more loudly, including in terms of surveillance capitalism (Zuboff, 2015) and data colonialism (Couldry & Mejias, 2018). What has received less attention in these discussions are the partial truths inherent to the data collected. It is especially relevant to note that the data collected always incorporate the specific social relations from which they are accumulated.

The rhetoric of technical accountability stresses the importance of inscriptions and implies the necessary partiality of these inscriptions, but the use of Wilma also shifts the spatiotemporal whereabouts of teachers at the school, hence directly influencing their location about social interaction and the need to negotiate visibility. With access to the school's Wilma terminals being limited in time and space, teachers are encouraged to do some of their work at home. Interaction that used to be face-to-face and less frequent has changed and now involves a range of technical inscriptions, leaving teachers less time for meeting students or parents in person, outside classroom or software settings. This is in parallel with what has been happening in other sectors, such as the health domain (Ruckenstein & Schull, 2017).

In another influence pattern, while Wilma is made obligatory for teachers, both students and parents continue to rely on a mix of communication media, including phone calls, SMS, social-media messages, and e-mail, thereby largely circumventing schools' efforts to build clear passage points. This complicates the boundary-negotiation processes further, since some communications must reliably reach every member of a large set of intended recipients while attempts are made to keep others between only a few people. Hence, Wilma is less an "immutable mobile" than a boundary object, "plastic enough to adapt to local needs and constraints of the several parties employing them" (Star, 1989, p. 46), built on an installed base.

Communication Privacy Management and Mediated Rules

Petronio's CPM theory is useful for teasing apart the kinds of boundary negotiation that teachers face when dealing with new communication technologies that collapse and transform contexts. As a rule-based approach to communication and coordination (Petronio, 2002, pp. 10–12, 37), CPM theory discusses rules as providing guidelines (Petronio, 2002, pp. 58, 138) for behavior. These are flexible, adjustable, and negotiable. Teachers get socialized into preexisting rules, and they may, for example, refer to legal guidelines and codified best practices. Both rules and their negotiation are sometimes explicit and at other times implicit, and some of these rules take the form of routines whereas others get tied to particular events and are applied only seldom (Petronio, 2002, pp. 72–83).

Being a teacher is a shared undertaking that relies not only on the rules that teachers decide upon but also on the curricula they are tasked with following and the relations they engage in with students, colleagues, parents, and supervisors. Accordingly, "teacher" is a description for a particular entanglement that involves a person taking up a host of relations and weaving them together into a more or less coherent whole. A teacher negotiates boundaries relative to other people, making decisions on what kind of information to disclose, to whom, as Petronio suggests, with the aid of heuristic rules. A teacher has particular expectations of what being a teacher means, as well as expectations of other people's expectations. Each teacher attempts to situate the personal understanding of being a teacher in line with these expectations. This task is simplified somewhat by teachers' education experiences of both studying at school and attending a university. Additionally, in Finland, the National Board of Education publishes national educational curricula that provide guidelines for teachers' work.

These aids notwithstanding, teachers have to deal professionally with fundamental insecurity surrounding the role of a teacher. On account of the relationality of being a teacher, teachers necessarily negotiate interpersonal boundaries with other people in a work context, whether boundaries with students, parents, peers, or supervisors. If a teacher is to act in these relational environments, the boundaries have to be porous, and they are regularly subject to change. Therefore, teachers must make efforts to negotiate boundary linkages, co-ownership, boundary permeability, and boundary closures. This negotiation becomes more difficult when teachers need to adhere to rules that are formalized in software code and that, hence, leave less flexibility for renegotiation work. Interpersonal roles become more rigid, whereas hierarchies between roles are softened with the more colloquial modes of communication used in these computer-mediated settings.

Recent CPM studies have focused on boundary negotiation processes in computer-mediated environments, examining, for example, how the affordances of social network sites impact privacy management (Litt & Hargittai, 2014; Pike et al., 2009; Vitak & Kim, 2014), how the lack of explicit and well-established privacy rules in online settings such as social media is a key factor in bringing about privacy violations and boundary turbulence (DeGroot & Vik, 2017), and how young people increasingly consider surveillance an everyday aspect of social life (Fulton & Kibby, 2017). Others have drawn on Altman's consideration of how physical space plays into interpersonal boundary regulation, finding this framing helpful for mapping how people negotiate boundaries in online settings that differ from the spatial and temporal structures familiar from face-to-face interactions (Palen & Dourish, 2003; Stutzman & Hartzog, 2012).

We have added to this work on the role of communication technologies in managing boundary negotiations by showing how implementing a computing system such as Wilma affects rules for boundary negotiation. Because communication technologies have important influence on how boundary negotiation may be performed, they should not be considered transparent means to an end. The material mediation of communication calls for reassessing the rules for "proper" social interaction because the bandwidth of both verbal and nonverbal communication changes with mediation, as do the ways of storing, processing, and transmitting data relevant for social interaction. What may be made transparent, and what remains opaque, depends on the affordances of digital technologies (Flyverbom, Leonardi, Stohl, & Stohl, 2016), and especially on how these are activated in specific situations (Lehmuskallio, 2012). For example, the temporal sequences in social interaction may change in consequence of the media-use-afforded possibilities opened by "time axis manipulation" (Krämer, 2006)—influencing such outcomes as who gets addressed when, in which order, and by what means. Boundary linkages, co-ownership, and permeability change as systems such as Wilma are introduced, and made obligatory, at schools and beyond. Hence, greater awareness on the part of implementers, users, and scholars alike can enrich the whole of society.

We have highlighted that the flexibility for rule negotiation characteristic of face-to-face communication is lacking in many computing environments. Here, rules, often decided upon in the software-development stage, are formalized in software code. Algorithms with particular contingency-based structures specify certain sequences of operation in advance, and these may not be readily manipulated at will afterward, because mass-produced software is not created to afford "on-the-fly" changes by users during situated negotiation. The case of Wilma concretizes several aspects of this formalization of social relations, including determining how people are categorized, who gets which kinds of access rights, and what options exist for sharing one's information with others. Interestingly, while fuzzy privacy boundaries are a possible source of boundary turbulence (Petronio, 2002), our study shows that so too are strict rules, as they leave little space for boundary negotiation. Wilma is an important example of restructuring and solidifying organizational structures at schools, but we believe it to represent only the tip of an iceberg. Going forward, we expect to see further boundary turbulence related to computer-mediated formalization of social interactions, and the felt situational needs for ability to renegotiate these. Most importantly, these systems, once implemented, will accustom various social stakeholders to constant monitoring and routine accounting, thus advancing the normalization of surveillance practices. This is why we need to pay closer attention to how the rules of engagement may be coordinated.

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The Korean Wave (Hallyu) and Its Cultural Translation by Fans in Qatar

SAADIA IZZELDIN MALIK
Qatar University, Qatar

This study employs in-depth qualitative interviews with Arab fans of Korean popular culture who live in Qatar to examine their cultural translation of Korean TV drama and K-pop music. It uses a transcultural approach to fandom studies, rather than foregrounding nationality as an analytic category. It focuses on fans' appropriations of these cultural texts in relation to their affinities, feelings, emotions, and accumulations of cultural capital used to negotiate their consumption of Korean popular culture. This article identifies emotions of frustration and fascination as central to these fans' transnational media engagement. It thereby shows that affinity is a central concern for research on transcultural receptions of non-Western cultures by non-Western audiences.

Keywords: popular culture, fandom, Arab, transcultural, affinities, identity

The Korean Wave, or *Hallyu*, refers to the flows of South Korean popular culture out of East Asia in the 1990s to the United States, Latin America, Europe, and the Middle East. It spread to the Arab world by 2005, when the Korean TV drama *Winter Sonata* hit the airwaves in Iraq (Y. Kim, 2007). However, the Korean Wave has received little attention by scholars of the region. It remains unclear how Arab fans make sense of Korean popular culture and why they are attracted to Korean drama and K-pop music despite little linguistic, historical, and ethnic proximity to Korea.

This article argues that in the process of culturally translating Korean popular culture texts, Arab fans develop multiple affinities while negotiating emotions of frustration and fascination with Arab and Korean popular culture texts. The study draws on Chin and Morimoto's (2013) concept of "affective affinity"; they argue that multiple attractions and proximities draw fans to transcultural objects despite linguistic, cultural, and geographical boundaries. Affective affinities provoke transcultural identifications that complicate conceptions of identity based on usual categories such as nationality, religion, culture, shared history, or geography. I use the term *transcultural* to imply more flexibilities, allowing for the possibility of other affinities (besides cultural)—such as language, genre, and personal experiences—to comprehend how and why fandom of Korean popular culture in Qatar arises regardless of national and cultural borders.

By answering the following questions, the article focuses on university-educated Arab women fans in Qatar to understand how they culturally translate Korean popular culture texts: How do fans explain their contact with Korean TV and music? What affinities do they develop while culturally translating this media

Saadia Izzeldin Malik: smalik@qu.edu.qa
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into their daily activities? Cultural translation here refers to appropriation of Korean pop culture by its fans, who make sense of these texts by giving them meaning and incorporating them into their daily activities.

Transcultural scholarship has begun to move beyond explaining fan attraction to popular culture in terms of cultural proximity—specifically traits such as language, history, ethnicity, and religion, which are often conflated with nation-states. Emerging work instead explores the affinities and emotions that fans develop in the process of culturally translating Korean popular culture. New media technologies are encouraging the hybridization of media spaces in the Arab region; media consumption is increasingly based on personal preference. Moreover, the multinational context of Qatar requires a theoretical shift, from theorizing fans as simply transnational (that is, still referenced by nation) to taking a transcultural perspective that holistically analyzes fans' relationships and experiences with Korean popular culture texts.

Theoretical Framework

Korean Popular Culture in the Arab World

The relationship between South Korea and the Middle East developed from mutual economic interests. In the 1970s, South Korea began to purchase oil and gas produced by Middle Eastern nations to satisfy its increasing economic needs. The corresponding economic boom in oil-producing Arab countries such as Saudi Arabia, Qatar, and the United Arab Emirates also led to South Korea's greater involvement in major construction projects within the region. From 1991 onward, South Korea also became politically involved in the Middle East: It sent noncombat military forces to Iraq to help in civilian reconstruction projects after the first Gulf War, as well as peacekeeping forces to Southern Lebanon following the 2006 war there (Levkowitz, 2013).

Korean popular culture was first officially introduced to the Middle East via Korean TV drama in the early 2000s. The South Korean government's Overseas Information Service (OIS) gave the popular drama *Winter Sonata* to Egyptian television in 2004. Kim notes that the OIS paid for Arabic subtitles, and "the broadcast was part of the government's efforts to improve the image of South Korea in the Middle East, where there is little understanding and exposure towards Korean culture" (Y. Kim, 2007, p. 31). Proliferation of social media and other digital technologies in the 2010s facilitated a so-called Hallyu 2.0, which is dominated by widespread dissemination of K-pop music in the Middle East and other parts of the world (Jin, 2018).

Many Arab countries have shifted from state-dominated to diversified media environments over the past two decades. Private and semiprivate ownership of media corporations and television networks is growing. Enhanced communication technologies are providing audiences with a wider variety of offline and online programming. As a result, Arab audiences are increasingly finding themselves in control of their media consumption and are no longer solely beholden to their national television channels (Tawil-Souri, 2008). Kraidy and Khalil (2008) describes these changes in Arab media using the notion of "hypermedia space" based on personalized, interactive, and mobile communication devices and practices. For Kraidy and Khalil, this new hypermedia space weakens the bonds of collective social life among Arab children and young people; it contributes to the transformation of their cultural identities by permitting other sources for identity negotiation and identity formation by Arab youth—along with the dominant influences of Arab nationalism and Islam.

New cultural tastes, knowledge, values, and lifestyles are increasingly accessible to Arab youth through this hypermedia space. It is now unsurprising to see a young Qatari, Egyptian, or Syrian woman wearing her traditional *hijab* (head cover) or *abaya* (body-covering black cloak) and watching a popular Korean TV drama during a class break over a live stream on a MacBook decorated with stickers of her favorite K-pop band. However, within this commercialized, hybridized, and individualized Arab media and hypermedia space, Korean popular culture has not emerged as a mainstream phenomenon. It is instead a subculture catering to small communities of dedicated fans and simultaneously integrated within global, regional, and local pop culture.

Fans of Korean popular culture in Qatar and other Arab countries initially gained exposure to Korean TV drama through major Arab-language, transnational, semiprivate satellite channels such as Dubai TV and MBC (Middle East Broadcast Corporation) 1, 2, and 4. But unlike Korean drama, K-pop music has not diffused to Arab audiences through transnational TV channels. In Qatar and the Middle East generally, local demand by fans drives dissemination and consumption of K-pop music (Omtazgin & Lyan, 2014).

The changing Arab media landscape has facilitated dynamic, personalized audience interactions with transnational media content, especially via social media. Analyzing this phenomenon requires understanding audience meaning-making processes and the transcultural identifications and affinities that Arab audiences may develop with border-crossing media content.

Transcultural Approaches to Korean Popular Culture Fandom

Two theoretical approaches dominate scholarship on the Korean Wave. One highlights Korean content production capabilities, marketing conditions, and cultural export strategies that represent the interests of the Korean media industry and government in promoting Korea's cultural industries as a key driver of economic growth (Y. Lee, 2005; Park, 2004; Ryoo, 2009). The other, as in this article, is concerned with fandom and the appeal of Korean popular culture (Han, 2017; S. Jung, 2012; S. Jung & Shim, 2014; H. Lee, 2014). These studies are dominated by the notion of cultural proximity to explain the popularity of Korean popular culture by audiences outside Korea.

Expanding on Cultural Proximity

Straubhaar (1991) introduced the concept of cultural proximity in his study of media influence, referring to "nationally or locally produced material that is closer to and more reinforcing of traditional identities, based on regional, ethnic, dialect/language, religious, and other elements" (p. 51). Some researchers (e.g., E. Y. Jung, 2009; H. Kim, 2002; E. Kim & Ryoo, 2007; Shim, 2006) relate the regional flow of the Korean Wave and its appeal for audiences in Japan, China, Hong Kong, and other Asian countries to shared cultural traits, Confucian values, and the geolinguistic interests of the importing nations.

Other scholars have posited that K-pop culture's global popularity instead results from hybridity inherent to the Korean Wave, which actually involves both local and foreign elements at multiple levels

(Iwabuchi, 2008; Park, 2004; Ryoo, 2009; Shim, 2006, 2011). From this perspective, scholars such as Park (2004) argue that Korean popular culture products, which blend traditional Asian and modern Western cultures, provide less cultural discount[1] to Asian audiences who want to enjoy Western popular culture but are reluctant to accept it outright for ideological and other reasons.

Cultural proximity, as adopted in transnational fandom studies thus far, depends heavily on the "national" and thus largely narrows the concept to linguistic and geographical investigation. As a theoretical framework, cultural proximity therefore falls short in explaining the popularity of popular culture texts in geographically and linguistically distant places (e.g., Qatar in this study). Moreover, although this analytical approach helps explain the Korean Wave's general appeal (especially K-pop music), it does not illuminate how audiences culturally translate and make meaningful the Korean popular culture texts they consume.

Chin and Morimoto (2013) advocate for a new theory of fandom studies by expanding the nation-bound concept of cultural proximity to the concept of "affective affinities." They comment,

> This is not to say that the national is unimportant, but rather that it is but one of a constellation of possible points of affinity upon which transcultural fandom may be predicated. Nation-based differences or similarities may well appeal to people across borders; but so, too, might affective investments in characters, stories, and even fan subjectivities that exceed any national orientation. (p. 99)

This article adopts a multiple affinities concept to identify common themes in the cultural translation of Korean popular culture that resonate across the specific cultural backgrounds of individual interlocutors in this research. For instance, fans interviewed in this study belong to different Arab nationalities (Qatari, Egyptian, and Syrian) and do not all enjoy regionally produced Arabic television drama—which arguably embodies cultural proximity (especially in terms of language and values) better than Korean TV drama.

Furthermore, the cultural proximity thesis conceptualizes culture and cultural identity as stable and bounded. It assumes that audiences identify cultural commonalities, which directs their interest toward media texts from culturally similar regions. Therefore, it cannot account for audiences' agency in making culture while interpreting what they watch. Thinking of cultural identity as position rather than essence is relevant here. Hall (1996) identifies that cultural identity is a production that is never complete, always in process. Hall therefore distinguishes two ways of thinking about identity: identity as similarity and continuity, and identity as difference and rupture. The former involves identity in essentialist form, whereas the latter involves identity in cultural form. This enables understanding how fans of Korean popular culture subjectively position their identities while culturally translating these texts.

In sum, this study moves from a conception of cultural identity as primarily "national" to perceiving identity as about using the resources of history, language, and culture in the process of becoming rather

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[1] Cultural discount, as defined by Hoskins and Mirus (1988), refers to the value loss of a product when it is considered for modification—for example, the dubbing of K-drama in Arabic—in a new cultural context where people lack the cultural capital to understand or relate to it.

than being (Hall, 1996). Cultural identities are therefore multilayered and complex; national belonging is only one layer. Hence, audiences can develop multiple proximities or affinities (beyond the national) through their emotional engagement with popular culture materials they consume (Shim, 2006).

Fan Agency and Cultural Capital

Several studies concentrate on participatory roles that audiences play through social media in mutually recreating and redistributing original texts (S. Jung, 2012; S. Jung & Shim, 2014; H. Lee, 2014). For instance, Yoon (2017) shows that in North America, where K-pop culture texts are not available through mainstream media, K-pop fans consider social media a user-friendly arena that facilitates their participation in translating and circulating K-pop culture materials.

Few studies exist on Korean Wave fandom in the Middle East region and fan agency in consuming Korean popular culture. However, Otmazgin and Lyan's (2014) study of K-pop music fans in Israel and Palestine highlights the notion of "cultural agency" in globalization; they show that transnational fans not only consume imported music, but also serve as marketers, mediators, translators, and localizers of globalized culture. Noh's (2010) study of Egyptian female fans of K-pop music on Facebook illustrates that they are not mindless zealots, but agents navigating complex identities in a postcolonial world. Lyan, Zidani, and Shifman's study (2015) emphasizes audience agency through their interpretation of Korean musical artist Psy's "Gangnam Style." They assert that remakes of the famous music video by Israeli and Arab audiences amount to a form of intertextuality (i.e., the localization of the global); this intertextuality "constitutes a mode of political protest wherein creators ridicule certain politicians by claiming control over them through cutting and editing their speeches, bodies, or movements to the rhythm and pace chosen by them" (Lyan et al., 2015, p. 23). Similar to this research, this inquiry positions fans of Korean popular culture in Qatar as agents. As Jenkins (1992) notes in an early study of TV fans and participatory culture, "They are consumers who also produce, readers who also write, and spectators who also participate" (p. 208).

Nonetheless, this article's transcultural fandom approach to Korean popular culture moves beyond literal meanings related by its interlocutors. It also scrutinizes fans' multivalent relationship to media texts and their accumulation of cultural capital. The latter is a critical concept to understand fans' agency in culturally translating Korean popular culture. Originally outlined by Bourdieu (1984), cultural capital consists of identifiable factors held by a cultural agent, such as education, "training" in legitimate culture, and appreciation of cultural capital. However, Fiske (1992) added an important distinction to Bourdieu's definition. The former argues that while popular culture capital does not provide upward class mobility, "its dividends lie in the pleasure and esteem of one's peers in a community of taste rather than those of one's social betters" (Fiske, 1992, p. 34). This analytical distinction usefully frames how fans use their popular cultural capital to build on their cultural identity within their social network.

Method

In-depth qualitative methodology was used in this research. Primary data gathered for this study consisted of a total of 15 in-depth, multistage group interviews conducted with participants in a purpose-specific focus group of 21 female undergraduate students at Qatar University. These interviews were completed in two stages. The initial interviews extended from December 9, 2015, to February 24, 2016. Follow-up interviews with the same participants were conducted from June 13, 2016, to January 15, 2017, to gain in-depth insight on issues discussed in the previous interviews. The interviews were open-ended, conducted in Arabic, and 2 hours in duration. This focus group research strategy was implemented to capture experiences concerned with meaning as well as practice. As such, the 21 participants were intentionally selected to be part of the research because they defined themselves as fans of Korean popular culture, specifically Korean TV drama and K-pop music; they positioned themselves as "information-rich" on the research topic. Snowball sampling augmented this strategy. The author became acquainted with a small group of these fans at Qatar University through a group of students in her global communication class. Students from other classes taught by the author subsequently introduced her to more fans of Korean popular media within the university.

The study's interlocutors ranged from 19 to 23 years old. The research participants were female Arab college-educated students of different nationalities: 10 Qataris, eight Egyptians, and three Syrians. This resulted in an overall sample consisting of roughly the same number of citizens as noncitizens in the context of Qatar, helping to minimize nation-specific bias. Qatar University hosts a nationally and culturally diverse student body, largely reflecting the cosmopolitan nature of the State of Qatar and its extensive population of expatriates, including Arabs, Asians, Europeans, Africans, and North Americans. The university is also a gender-segregated campus, which precluded a mixed focus group of men and women for this research. Hence, this article considers multiple experiences of women fans of Korean popular culture in Qatar, though it is not representative of all such fans living in the nation.

The author's position in this research is also critical to acknowledge. On one hand, the researcher is an outsider (i.e., not a fan) seeking to understand how Arab fans explain their affinities with Korean TV and music. On the other, the scholar is also an insider: an Arab/African woman who shares with fans some cultural values and some knowledge of popular culture in the Arab world.

Research analysis began with complete transcription of each interview into English text as the basis for further interpretation. The interview data were then sorted into broad themes based on content and analyzed with respect to each research question, as reported next. Some direct quotes from the interviews with the research participants are included in the following results to highlight in their own words the multiple, overlapping affinities and meanings of K-popular culture texts developed by fans in their consumption of Korean TV and music.

Findings and Discussion

Research findings are organized according to the article's main research questions: How do fans explain their contacts with Korean TV and music? What affinities do they develop while culturally translating this media into their daily activities? For the second question—the bulk of the analysis—results are subdivided according to two complementary themes: cultural proximity and affective affinities. The section concludes with an interpretation of fan communities and transnational identity production based on these data.

Fan Contacts With Korean Popular Culture

This study's fans first personally contacted Korean popular culture through routes in some respects similar to the ways Arab youth consume hypermedia. Some fans reported accessing Korean media through personal communication with friends. For instance, an Egyptian fan mentioned,

> One day, my friend showed me a picture of one of the K-pop music stars, and I got interested and started to search more and more about the K-pop music bands and Korean TV drama stars. I have been a fan of K-pop music and Korean TV drama since 2008 and can speak Korean fluently.

Another Egyptian interlocutor added,

> The first time for me to know about Korean pop culture was in 2008 when I watched a K-pop music video that a friend of mine shared with me. I fell in love with it, and I have been a fan since then.

A Qatari interviewee instead related,

> Korean TV drama was my gateway to K-popular culture. It took me one Korean soap opera to watch and get hooked on Korean popular culture. I started to follow my favored Korean stars and watch their performances in other soap operas, talk shows, and I watch K-pop music videos all through the Internet.

Another Qatari fan confirmed a similar experience:

> I was flipping through the TV channels in my hotel room during vacation in Thailand in 2006 when I stumbled upon a historic K-drama and I fell in love with it and kept anticipating the next episode and the next one. . . . And since that time, I have been a big fan of K-popular culture.

These prevailing sentiments of individual routes of exposure to, and then engagement with, Korean popular culture indicate that fandom in Qatar is largely self-driven.

Cultural Translation of Korean Drama and K-pop Music by Fans

Dialogues among Korean popular culture fans provided varied perspectives of their cultural translation processes. Fans developed multiple affinities with Korean TV drama and K-pop music through self-reflexivity using their agency, personal experience, and popular cultural capital. These affinities are compared from cultural proximity and affective affinities frameworks. They are only partially explained by the former's nation- and culture-centric perspectives. Instead, data collected in this study more closely reflect multiple, overlapping affinities that may include, but also transcend, these categorizations.

Cultural Proximity

Fans appropriate the cultural objects of other cultures "through the means they have at their disposal within their own popular culture context" (Chin & Morimoto, 2013, p. 103). This study's data show that fans express cultural proximity to K-pop through their appropriation of Korean cultural and family values, including gender relations; they perceive these values as shared between their Arab cultures and the mediated Korean culture. As one fan summarized, "Cultural and family values such as respect for the elderly and the youngsters, are values projected by many Korean drama stories and are valued within our Arab culture contexts."

Other Qatari and Syrian responses highlight similarities in gender relations between Korean and Arab societies as projected by Korean drama. Another fan commented that "the image of the father as the authority and the dominant figure in the family" and "the strictness of fathers, such as not allowing their daughters to stay late at night outside the house, are similar to the father–daughter relationship in our societies, and that made Korean drama familiar, not foreign, to us." These fans expanded the concept of cultural proximity to include gender relations, reminiscent of La Pastina and Straubhaar's (2005) argument that "women across cultures identify with family drama or melodrama that points out commonalities of family struggles" (p. 274).

Fans also transformed and reappropriated Korean popular culture texts, adapting them to the practical context of everyday life. In other words, the meanings of Korean TV drama and K-pop music were also resignified in their cultural translation processes to fit the local, religiously conservative Arab context. One Qatari interviewee mentioned, "Korean drama is the only type of soap opera we can watch together as a family because they are decent, clean, and also nonviolent." Another Qatari fan added the following:

> Korean TV drama is the type of drama that allows young and old siblings to communally watch because it is decent. For instance, my sister is six years younger than me. So, each one of us has her own preferences in soap operas and we never had anything in common to watch, until my sister invited me to her Korean drama world. Since then we built a tradition to get together to watch.

This attention to concepts of decency is supported by researchers such as Ying (2008) and Emam (2008), who each argue that the absence of explicit sex in media has helped spread the Korean Wave in the Middle East—where displays of physical sexuality can draw censorship and protest. This perspective implies that an ethical cultural proximity contributes to the Korean Wave in Muslim countries such as Iran and Egypt. In explaining the appeal of K-pop music, some of this study's Egyptian and Qatari fans developed similar meanings from Korean drama regardless of their nationality, such as, "K-pop music lyrics contain nonviolent and decent words." Another elaborated,

> Decency is one shared cultural value between Korean and Arab cultures. One example would be, when female Korean pop stars would perform on stage, they would most of the time wear clothing that is not revealing because they are aware that their fan-base includes fans as young as 10 years old or even younger. So, they know that they should

> appear as good role models for younger audiences. Sometimes Korean stars change the lyrics of their songs and make them clean to be accepted by younger audiences.

However, several Egyptian and Syrian fans explicitly rejected the notion of cultural proximity as an element for their affinity with Korean drama with regard to shared values. For instance, an Egyptian interlocutor contradicted that perspective:

> Korean TV drama scenes always show alcohol use, which we know is against our Islamic religious values, but we still watch Korean drama. For some of us, fans of Korean popular culture, it is not the "shared" cultural values with the Korean culture that attracted us to Korean TV drama. Actually, what attracted us was the aesthetic of those dramas and the variety of stories and the entertainment we received from watching them.

These fans developed proximity to Korean popular culture regardless of the cultural and religious differences between them and the characters portrayed in Korean media. These findings show that fans also developed emotional attachments to the genres of Korean TV drama that did not simply reflect perceived or assumed cultural proximity to Korean popular culture texts.

Hence, multiple affinities—as an alternative concept to cultural proximity, concerned less with nations than with fans themselves—form a better interpretive framework for fans' emotional engagement with Korean popular culture texts. Multiple affinities will be discussed within three broad categories: genre affinity, language affinity, and personal experiences (affinities).

Multiple Affinities

Genre Affinity

Research shows that audiences are able to relate to nonnative drama and characters when they appeal culturally and ethnically to audiences. Lu, Liu, and Cheng (2019) argue that cultural and ethnic similarities between Korea and China—such as appearance, dress, lifestyle, and tradition—helped Chinese viewers relate to the characters in K-drama: Viewers see characters as people they know about in everyday life. In her study on Turkish drama in Qatar, Berg (2017) finds that Turkish drama audiences in Qatar also describe the importance of being able to relate in a realistic way. They understand Turkish TV characters on a personal level because of cultural proximity.

However, given the lack of ethnic similarities between Arab fans and Korean drama characters, fans often expressed their affinities with Korean TV in terms of genres (stories, specifically) rather than with characters in Korean dramas. In explaining the mismatch between Korean actors' physical features and the dubbed TV shows in the *Khaleeji* dialect (the colloquial Arabic of Gulf [Khaleej] countries such as Kuwait, Qatar, United Arab Emirates, and Oman), one Qatari fan recalled,

> When Korean dramas were dubbed in Khaleeji Arabian Gulf accent, that was not well-received by most of us fans of Korean drama at all. When I watched Korean soap operas

> dubbed in the Khaleeji dialect, I just kept laughing. I used to watch the reruns of these soap operas just to laugh and make fun of the dubbed voices that do not match the physical features and appearances of Korean actors and actresses. It was also funny to hear the Arabic names that were given to the Korean actors in these series.

This frustration with Arabic popular culture drama is actually a common theme in the cultural translation of Korean popular culture by Arab fans in Qatar. Fans' frustration with and criticism of Arabic drama genres go hand in hand with Berg's (2017) findings regarding the success of Turkish drama in Qatar, in which she confirmed that it is not always the case that the viewer's first preference will be material produced in his or her own language and reflecting local or national culture. Cultural and linguistic elements appear secondary if national and regional media fail to gratify audiences' desires.

Fans expressed their affective investments in Korean drama stories they perceive as funny, romantic, and "real"—especially when juxtaposed with Arabic dramas. One fan summarized this attitude:

> We love Korean TV drama, and we consume it every day because it has something that appeals to everyone cross-culturally. The stories of Korean drama are wide-ranging. Stories range from romance to school life to comedy, such as *Boys Over Flower*, *Playful Kiss*, and *Coffee Prince*. The stories are segmented to satisfy the needs of different age groups. This actually makes Korean TV drama more real and appealing to us than Arabic TV drama.

Other fans admitted that values emphasized by stories in Korean drama (such as trust among family members) are not prevalent in Arabic drama. For instance, a Qatari fan mentioned, "Khaleeji drama is full of themes of twisted relationships and mistrust among family members that usually make Khaleeji drama unrealistic and at times irrelevant." Another Qatari fan expressed her frustration:

> Arab soap operas, especially the Khaleeji soap operas, don't reflect the reality of the Arab societies. Almost all the themes of these soap operas centered on tragedy, family disputes, and violence. They just make me sad. While on the contrary, Korean drama are fun to watch to the point that my mood changes from sad to happy when I flip the channel from Arabic soap opera to Korean soap opera.

In further explaining their affinities with the Korean TV drama genre, fans also highlighted its perceived "sophistication." Some mentioned that they love Korean TV because it is modern and sophisticated, especially in contrast to Arabic-language TV. Fans of different cultural backgrounds agreed, as voiced by one fan: "Arabic soap operas, when compared to Korean soap operas, lack sophisticated production qualities. Korean drama, on the contrary, provides us [fans] with high-quality content with and compelling modern style." Other interviewees expressed their affinity for and fascination with stories and modern style in performances of K-pop music. One explained,

> K-pop music videos are not like Arab music videos where the performer sings while he is chasing a girl around seeking her attention. In K-pop music videos, we enjoy sophisticated modern-style music, professional dancing, and an actual meaningful story. Sometimes,

> the performers provide audiences with a short 5- to 6-minute story before the actual song itself begins, which makes the music video even more interesting to watch.

This view is supported by similar findings from studies of non-Korean Asian fans of Korean popular culture; these studies find that their audiences prefer Korean drama to their own cultural products because of the "sophisticated and modern" style employed (Cho, 2005; S. Y. Lee, 2005 (cited in Y. Kim, 2007).

Almost all the fans in this study also acknowledged that the earlier transcultural spread of a perceived similar Asian genre—Japanese anime and manga—has contributed to the diffusion of Korean popular culture in the Arab world. An Egyptian fan summarized,

> We are attracted to Korean TV drama because some of the stories in Korean TV drama are personalization of Japanese animation that we have already been familiar with since we were little kids. For instance, K-drama *Boys Over Flower* has similar melodrama content to a Japanese anime series that I watched a long time ago but forgot its name.

In this case, as Y. Cho (2011) has commented elsewhere, it is not always true that global fans of Korean popular culture residing outside the geographic boundaries of Asia are unfamiliar with Asian sensibilities.

Language Affinity

Fans' fascination with and attraction to the Korean language is another integral aspect of their incorporating Korean popular culture into daily activities. Most of the fans interviewed in this study had learned to speak Korean fluently without leaving Qatar and had also given themselves Korean names. This appropriation of Korean language demonstrates the subjective positioning of fans' cultural identities and the complexity of their identity expressions. Some fans learned the Korean language because they wanted to understand, in a literal way, Korean popular culture through drama and musical lyrics. Others expressed their affinity with Korean language in emotional terms. An Egyptian interlocutor enthused,

> I adore Korean language. My journey with learning the Korean language is a long one. I first started to learn the Korean language from listening to K-pop lyrics from K-pop music bands, repeating simple phrases of lyrics over and over again, which makes it easy for fans to pick up Korean words. Then I learned more Korean words and sentences from K-drama that I watch online. I continued to learn Korean language from CDs that provide Korean language instructions to learners, and then from language books.

Several learned Korean because they love the language itself and love Korean culture, exemplified in statements such as, "the Korean language is beautiful and Korean culture is fascinating." Another Qatari fan expressed an even deeper sentiment for Korean language and cultural identity expression:

> I speak Korean, or at least I use Korean words, almost every day, and I know the meaning of Korean words in English and in Arabic. I use Korean language in different settings. I especially tend to use Korean words when I enter into a fight because I can express myself

> better when using Korean language. Actually, the Korean language is very expressive . . . I "think" in Korean . . . I feel that my mindset is Korean.

Fans also articulated their attraction to and fascination with Korean language through their opinions about the dubbing of Korean drama by Arabic transnational TV channels. Some Egyptian fans preferred the dubbing of Korean drama by Arabic transnational channels in standardized Arabic because it is generic and doesn't target a specific ethnic group, as would dubbing Korean programs in Arabic dialects. Yet others—here, some Qataris, an Egyptian, and a Syrian—suggested that it is better for Arabic TV channels to broadcast Korean drama with Korean audio and Arabic subtitles. One fan reasoned,

> Everything is better in its original form. For fans like us who understand Korean language and watch these soaps online, we can easily pick on the mistranslated phrases on the Arabic TV channels. And others who don't speak Korean can easily find online sites in which fans provide good and "authentic" translation of Korean TV drama better than the "bad" dubbing provided by Arabic TV channels.

Fans' views of Korean program dubbing by Arabic transnational TV channels also illustrate a different perspective on the notion of cultural discount discussed earlier. In this study, fans used their cultural capital of Korean language and their knowledge of "authentic" fan-translated Korean material to counter the "bad" dubbing of Korean drama by TV channels available within their cultural settings.

Other Personal Experiences

Personal experiences also pushed and pulled fans toward deeper emotional engagements with Korean popular culture. One interviewee noted, "My admiration for Korean popular culture and everything Korean pushed me to contact the Korean Embassy to attend some language classes organized by the embassy." She was not alone. The Korean Embassy in Qatar holds many cultural activities to promote Korean culture to Qatar residents. In an interview with Qatar's *The Peninsula* newspaper, Ambassador of the Republic of Korea Chung Keejong noticed that "the interest shown by people in Qatar in South Korean culture and language has been increasing steadily here, with many Qatari ladies getting interested in traditional Korean culture" ("Getting to Know Korea," 2013).

Interlocutors' cultural translation processes were also influenced by their firsthand experiences with Korean people during vacation visits to Korea. In particular, these visits shaped the perception of some fans on the "real" Korean ways of doing things. Three Qatari fans interviewed in this research had visited Korea. One fan held that

> Korean drama portrays some realistic Korean ways of doing things. I'll give an example: When I visited Seoul during the summer, I found out that the respect for mealtime by Koreans is a real thing. It is not a fantasy projected in their television drama series. I actually saw people put down their meal boxes wherever they are, and start eating at the exact time for that meal.

Another, Qatari fan stated,

> I admired Koreans more when I met with them face-to-face, not through the screens. Koreans are kind on screen and off screen. They are actually very welcoming people. While I was shopping with my family or just browsing the city, I remember I was stopped many times by Koreans who asked me about the henna decoration I had on my hands or asked me about the hijab I put to cover my head. Koreans expressed their curiosity in a very kind and a very genuine way. I actually felt like a celebrity admired by them not as an "alien" to be stared at.

In using their personal testimonies to foreground the "realistic" way in which Koreans embody the cultural values portrayed in exported Korean media, fans constructed a more stable imagined meaning of "Koreanness" than the ambiguous and fluid meaning of "Arabness" found in unrealistic portrayals of Arab values in Arab TV dramas.

Fan Communities and Transcultural Identity Production

While the accumulation of popular cultural capital is a source of collective identity (i.e., "people like us"), it also source of distinction (Bourdieu, 1984). Some fans held that the more knowledge about Korean pop idols, language, and lifestyle a fan acquires, the greater the distinction a fan will feel in relation to others. For other fans, the accumulation of Korean popular culture capital and language works as form of distinction that separates them from other nonfan groups. A Qatari fan illustrated the point:

> As a member of a fan community of Korean popular culture, I speak Korean and I mingle with other fans who either speak Korean language or speak a hybrid language mixing Korean and Arabic words. . . . I must say that Korean language provides me with the sense of uniqueness. Because Korean language is completely different from Arabic, it helped in distinguishing me from others who solely speak Arabic.

Transcultural identity also develops within fan communities, foregrounding the possibility that fandom may at times supersede national, regional, and/or geographical boundaries (Chin & Morimoto, 2013). Some of the fans in this study recognized the importance of belonging to offline and online fan groups of Korean popular culture. These groups transcended national boundaries. Fan groups provide a sense of community, and their distinct shared practices and symbols culturally distinguish Korean popular culture fans from other social/cultural groups. Fans identified the aforementioned Korean language acquisition as another cultural practice differentiating them from other Arabic-speaking groups.

Furthermore, fans also use signs and symbols from Korean popular culture itself to distinguish "old" and "new" fans of the K-pop music bands. Consider the dynamics of popular culture expressions used by fans and their interpretation within fans' communities. For instance, all fans in this study agreed that "fans of K-pop music bands such as *Shinwa* or *DBSK* are 'old' [original], but fans of K-pop music bands such as Shinee and BTS are 'new.'" A Qatari K-pop music fan elaborated,

> When you are a member of a K-pop fan group, you can identify those who are like you and others who are not. For instance, we can immediately categorize a K-pop music fan as "new" or "original" from the sticker that fan puts on a paper file he or she is holding.

These distinctions can facilitate new fan relationships and connections to K-pop culture. A Qatari fan mused,

> I met my now best friend accidentally at the Japanese culture fan club in the university. She was holding a key chain with a picture of my favorite K-pop music band. From that day we became close friends. Fans who love certain K-pop music bands just click together.

Fans developed affective affinities within and outside their fan communities. They expressed fascination with Korean popular culture by distributing products such as stickers, records, and souvenirs that are part of their accumulation of popular cultural capital objects and materials over time. As Fiske (1992) notes, these objects effectively form "cultural fora for the exchange and circulation of knowledge and the building of a cultural community" (p. 44) among themselves—as well as outside their fan community while working as "missionaries," inviting others to enjoy this phenomenon. Likewise, as H. Lee (2014) also found, in this, study fans' attractions were rarely limited to a particular medium or even genre, instead often arching across Korean popular culture.

Arab fans developed transcultural, affective affinities through their Korean popular culture consumption rather than simplistic interpretations of media texts. For instance, one Qatari fan intimated, "I have a room in my house full of K-pop icons and merchandise that I have collected over time. This room is my sanctuary where I find refuge when I have a sad day." She formed a positive emotional attraction to Korean popular culture facilitated by artifacts of her fandom. Such complex affinities are facilitated by the continuous, processual nature of cultural identity formation, as Hall (1996) argues. It involves understanding and being understood, an interplay between meaning and interpretation. Jansson (1999) recognizes that an "individual's sense of belonging to a cultural community demands a situation in which he[/she] is able to understand the intersubjectively established sign system, as well as making himself[/herself] understood as a member of the community" (p. 11). Some fans effectively valued their fascination with Korean popular culture as a powerful mechanism to shift their mood or state of mind. Their fandom became transcultural, a deeply personal affinity for media as well as its cultural referents and signifiers that had little to do with national origins or cultural proximity.

Globalized, transcultural flows of mediated products of Korean popular culture engender new referents of cultural identity among Arab fans in Qatar. Fans connected with Korean popular culture by diverse means, most prominently through social media characterizing the current shift to a hypermedia mediascape in the Arab world. Fans' cultural translation activities moved beyond cultural proximity, instead revealing genre, language, and other personal affinities. Cultural translation of Korean TV drama and K-pop music thereby becomes a significant mechanism for young Arab women to develop personal identifications with transnational and transcultural communities.

Conclusion

This article is a principal study of the unheard voices of Arab fans of Korean popular culture in Qatar. Its findings reinforce that the frustration with Arabic culture expressed by fans of Korean popular culture becomes a site through which fans assert their affective affinities to Korean popular culture.

Fans' cultural translation of Korean media reflects the complex ways humans create meaning from media texts, as well as their multiple affinities with it. Korean popular culture becomes meaningful and relevant to fans in Qatar primarily through their development of affective affinities and fascination with Korean TV drama and K-pop music, transcending perceptions of cultural proximity. Some fans experienced affinity through relating similar cultural values depicted in Korean TV drama with Arab family and cultural values and gender relations. Other fans explicitly excluded this notion of similar values in Korean and Arab cultures as a factor in their attraction. Instead, they explained their translation of Korean popular culture through affective affinities of genre, language, and other personal experiences. Genre affinities included lack of cultural proximity, universal appeals, perceived sophistication, and prior familiarity with Asian sensibilities or cultural texts.

The accumulation of popular culture capital and Korean language capital by Arab fans has become a mechanism and form of self-expression, self-identification, and distinction. In building fan communities, fans have foregrounded their fan identity as a vehicle for transcultural bonding. In the process, fans backgrounded their national differences to experience Korean popular culture together. Furthermore, the appropriation of Korean popular culture symbols by fans worked as one form of a desired distinction between fans ("us") and nonfans ("them"). Thus, the consumption of Korean popular culture by fans in Qatar is a self-driven as well as a self-actualization process.

The findings of the article reflect the experiences of a group of a university-educated fans; further research could expand the research population to include varying age groups and additional nationalities. The multiple affinities concept applied in this study also could be further appraised through inquiries to understand how fans culturally translate other transnational media texts they consume (such as Turkish, Indian, Japanese, American, etc.) and what additional discursive practices occur in different transnational fandom spaces.

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