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The Role of Culture and Collective Intelligence in Online Global Trolling:

The Case of Trolling Trump's Inauguration Speech

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Abstract

This study examines the online collective process of global trolling of Donald Trump's inauguration speech. The goal is to identify global trolling behaviors, patterns of global CI, and the role that national culture plays in this context. We performed thematic content analysis of 60 videos (each represents a country) that were posted over a three-week period in 2017, following Trump's inauguration speech. We found that regardless of country, all the videos exhibit repetitive, provocative, pseudo-sincere, and satirical trolling behaviors; while these trolling behaviors cross national boundaries, the use of certain trolling behaviors correlated with a few of Hofstede's dimensions of cultural differences. For example, videos from individualistic countries included significantly more instances of trolling behaviors than those from collectivistic countries. We found that in global trolling CI patterns of replication, innovation, and customization were prominent along with the impact or omission of the original idea. While most of these patterns have been documented by other scholars, we identified the additional

pattern of omission that in an extreme case led to a minimalist approach excluding the original idea. This study is unique and timely in that it focuses on global trolling, analyzing internet videos as a medium of trolling.

Keywords: Online trolling; global trolling; ideological trolling; CI; cultural differences.

Introduction

On February 3, 2017 *Vanity Fair* published an article by Laura Bradley titled "Europe is Trolling Trump". What began as a few European countries trolling Trump turned quickly into a global event that involved at least 60 countries from around the globe trolling Trump by means of short videos. The media characterized these videos as trolling that crosses national boundaries, but this characterization raises several important questions. If this global event is indeed a trolling case, what are its trolling attributes? What do trolling tactics via video have in common with those observed in other media? What is the role of national culture in trolling that crosses national boundaries? And finally, what global collective intelligence (CI) patterns are evident in global trolling (GT), and to what extent do these resemble or enhance existing patterns?

There is little agreement on the definition of trolling, but typically trolling refers to "harassing, criticizing, or antagonizing (someone) especially by provocatively disparaging or mocking public statements, postings, or acts" (Merriam-Webster, n.d.). We postulate that with this understanding of trolling, its manifestation on a global scale is GT. GT involves groups of perpetrators from around the globe, targeting individuals or groups; at times it even turns into state-sponsored trolling (Nyst & Monaco, 2018), or collective trolling (Sun & Fichman, 2020). In our case the trolling target was President Donald Trump, making this trolling event a form of "political satire, [which] in any media, implies the act of mocking conventions… and thus seems to serve trolling actions very well" (Fichman & Dainas, 2019, p. 4263).

This type of GT event builds on CI processes, where individuals and groups collaborate through creative acts of trolling. CI refers to knowledge that emerges from collaboration, and is discerned as shared intelligence. In the case of GT of Trump's inauguration speech, the various

videos were not made in isolation but rather influenced each other in style and content over time. Sharing these creations contributes to the dynamic of the event as a whole. CI processes on Wikipedia, for example, capitalize on ideas such as wisdom of the crowds (Surwiecki, 2004; Tapscot & Williams, 2007). CI research can help us understand GT better, yet this line of research has not examined trolling and with a few exceptions has mostly ignored the impact of national culture or trolling tactics on CI processes (Hara et al., 2010).

Research looking into the impact of national culture on trolling is scant (Sun & Fichman, 2018), but studies of specific cases of trolling from countries around the world have been published, including the USA (Flores-Saviaga et al., 2018), UK (Bishop, 2013), China (Sun & Fichman, 2018, Yang et al., 2017), Israel (Gal, 2018; Shachaf & Hara, 2010), Italy (Ferrari, 2018), New Zealand (McCosker, 2014), and Russia (Zelenkauskaite & Niezgoda, 2017). Collectively, these studies raise a question about the extent and nature of trolling within and across national boundaries. Specifically, it is unclear to what extent motivations, perceptions, and reactions to trolling behavior differ from one country to another. Yet, scholars who examined the motivation behind trolling (Buckels et al., 2014; Shachaf & Hara, 2010) or the perceptions and reactions to trolling (Fichman & Sanfilippo, 2016) mostly disregarded national culture impact. However, because research suggests that trolling behaviors differ from one socio-technical context to another, and that trolling differs across communities and platforms (Sanfilippo et al., 2017), it is possible that a comparative analysis of trolling behaviors and motivations will identify similarities and differences across the globe. Specifically, it is possible that the extent and type of specific trolling behaviors and tactics may vary between countries, based on cultural dimensions (Hofstede et al., 2011). We can speculate that more trolling will be visible in low power distance cultures, in weak uncertainty avoidance countries, in individualistic countries,

and in feminine countries, than in cultures that are on the other end of each of these indices. It is likewise possible that individuals will troll in individualistic countries, while in collectivistic countries it will be done in groups (Sun & Fichman, 2019). Still, it is possible that shared motivations or ideology can bridge over national, socio-cultural, and geographical boundaries on online platforms; Bradley's (2017) claim that "Europe [was] trolling Trump" makes this underlying assumption evident. Imagined online communities (Anderson, 2016; Kavoura & Borges, 2016) with members from around the globe formed around shared ideas about Trump's inauguration as they employ special language, mocking Trump's language, while they were all engaged in GT through a range of tactics and behaviors.

Although early research on trolling focused attention on deviant and malevolent trolling (Fichman & Sanfilippo, 2016; Kopecký, 2016; Shepherd et al., 2015), more recently the focus has shifted to satirical, ideological, collective, and political trolling, as well as on trolling in countries around the globe (Sanfilippo et al., 2018; Sun & Fichman, 2018). However, because forms of trolling and types of perpetrators have diversified with time, transformability of early research on trolling should be made with great caution. Specifically, different types of trolling (e.g., malevolent, satirical or ideological trolling) may be driven by different motives, may employ different tactics, and may be perceived differently by the public (Sanfilippo et al., 2018). For example, "unlike malevolent trolls that provoke their target maliciously, satire trolls express extreme views pseudo-sincerely to expose the ridiculousness in a community" (Fichman & Dainas, 2019, p. 4261). Moreover, findings from research on trolling in Western countries, which dominated the early works on trolling, may not be as relevant in research on trolling in Eastern countries (Sun & Fichman, 2018). Research has yet to study the possible variations from one country to another, and to examine the impact of socio-cultural factors on trolling behaviors,

motivations, perceptions, and attitudes. There is a need to gain a better understanding of political, ideological, and satirical trolling, and to examine the global reach of trolling. Thus our focus on GT through videos with overt political satire content can help. Studying GT seems to be timely and necessary also because of the rise in media accounts of Chinese and Russian trolling, and the proliferation of the "state-sponsored trolling" phenomenon (Nyst & Monaco, 2018). Specifically, there is a need to identify the characteristics of and motivations for, the impact of national culture on, and the nature of the collaborative processes of GT. Therefore, we designed a study that analyzes videos from 60 countries, as a case of GT, addressing three research questions: 1) What are the features of GT? 2) What is the role of national culture in GT? 3) What are the CI patterns of GT? This study is unique and timely in that it focuses on GT, analyzing internet videos as a medium of trolling.

Background

GT as a collective act has attracted little attention (Sun & Fichman, 2018), but it can be informed by the notion of imagined communities and by research on CI, which has attracted much scholarly attention (Kyriakou, Nickerson, & Sabnic, 2017; Nickerson et al., 2016; Nickerson & Yu, 2011). For example, Nickerson and his colleagues focused on the effect of exposure to original ideas in crowdsourcing ideation (Wang, Nickerson, & Sakamoto, 2018), reuse for customization (Kyriakou et al., 2017), and crowds designing an object collectively (Nickerson & Yu, 2011), applying theories of idea exposure and idea generation (Kyriakou et al., 2017), knowledge and reuse for replication and innovation (Nickerson & Yu, 2011), and combinatorial conjecture of creativity and human conceptual combination (Nickerson et al., 2016). They found that crowdsourced idea generation and the exposure to an original idea may affect participants' motivation and their cognitive process and that it is often difficult for people

to build on an original idea (Kyriakou et al., 2017). In a study involving the design of chairs, the third generation design of a chair was deemed more creative than the first; features of the chair had been added, inherited and modified through the generations (Kyriakou et al., 2017).

One platform that has attracted much research on shared intelligence and crowd work is Wikipedia. Scholars first focused attention on the quality and scope of Wikipedia (Giles, 2005) and on processes to ensure information quality (Stvilia et al., 2008). Later, an increased interest in the Wikipedia community resulted in focus on conflict and controversy (Viegas et al., 2007), its global spread (Yasseri et al., 2014), and an increased attention to Wikipedia in languages other than English (Hara et al., 2010), as well as vandalism and trolling (Shachaf & Hara, 2010). In this body of literature there is still a need to gain better understanding of how people that participate in collaborative actions online can be productive or destructive, how features of the collective outcome (be it a product, a design, an article, a video, or an answer) move through the generations of the combination of ideas process, what type of ideas should be attended to when it comes to generating good ideas by others, and what is the role of national culture in these processes; the context of GT can help us address some of these gaps.

To help us understand GT we draw on the body of literature on trolling. Research on online trolling has focused attention mainly on trolling behaviors (Sanfilippo et al., 2017) and tactics (Fichman & Dainas, 2019), motivations to troll (Shachaf & Hara, 2010), enabling factors on social media, and perceptions of and reactions to trolling (Fichman & Sanfilippo, 2015). Scholars found that trolls are driven by motives that range from political and ideological to malevolent to personal enjoyment (Buckels et al., 2014), revenge and thrill seeking (Cook et al., 2017). What remains unclear is which trolls are motivated by what specific motives, and how specific motives might drive specific trolling tactics and behaviors. Some scholars found that

trolling behaviors include, for example, provocativeness, intentionality, repetitiveness, pseudo-sincerity, and satire (Shachaf & Hara, 2010; Sanfilippo et al., 2018). It is unclear, however, if certain behaviors are necessary components of trolling while others are optional; for example, provocativeness might be essential, but repetitiveness or satire may not. Furthermore, trolls can employ specific tactics to be provocative in specific situations (Fichman & Dainas, 2019), for example, through outrage tactics such as lying, name-calling, or insulting. However, which tactics are associated with which behavior remains unclear.

Recent work on trolling has shifted its focus to satirical, ideological, collective, and political trolling from countries around the globe (Ferrari, 2018; Fichman & Dainas, 2019; Zelenkauskaite & Niezgoda, 2017; Sun & Fichman, 2018; Yang et al., 2017); these studies are particularly relevant to this paper. Politically driven trolling occurs within countries, for example in Italy (Ferrari, 2018), USA (Flores-Saviaga et al., 2018), and China (Yang et al., 2017), as well as between countries; state-sponsored online hate and harassment campaigns are being used to intimidate and silence government critics (Nyst & Monaco, 2018). For example, some of the ideological trolls observed in the largest Baltic news portal, who were called Kremlin trolls, were believed to be paid by Russia (Zelenkauskaite & Niezgoda, 2017). While this demonstrates trolling across national boundaries, others have examined trolling within national boundaries. For example, in Italy, there have been reports on fake political social media accounts, which took advantage of anonymity on online platforms (Ferrari, 2018). These types of trolling are driven by political ideology, and at times seem to be humorous and use satire as a form of activism

(Ferrari, 2018; Fichman & Dainas, 2019; Sanfilippo et al., 2017). Moreover, scholars report that Chinese collective trolling, whether political or not, utilizes humor and sarcasm (Sun & Fichman, 2018; Yang et al., 2017). Political satire, in any media, which involves mocking conventions, seems to serve trolling actions very well (Fichman & Dainas, 2019). While these studies are informative, most focus on one case at a time, and much remains to be uncovered. For example, there is a dire need for cross-cultural research on political and ideological trolling (Fichman & Sanfilippo, 2016), and in particular on the role of satire in GT.

Research on satirical and ideological trolling is of particular interest here, not only because these trolls are a ubiquitous part of online interactions (Fichman & Dainas, 2019), but also because the use of humor and satire seems to be an integral part of GT as well. Trolls are known to violate community norms malevolently (Shachaf & Hara, 2010), or use community norms satirically to promote their ideology (Fichman & Dainas, 2019). In GT, the trolls use humor, which by definition violates norms, albeit in amusing ways (Lu et al., 2019); while humor (including by trolls) involves appropriate violations of communication norms, malevolent trolling involves aggressive and inappropriate violation of norms. The determination of what is appropriate is subjective and varies across cultures (Lu et al., 2019). For example, it was found that in collectivistic cultures (China, Korea, and Thailand, for example) humor was used for group bonding and individuals used self-deprecating humor, while individuals in individualistic countries (i.e., Canada, Germany, and the US) were more likely to use self-enhancing humor (Lu et al., 2019); still, there is very little cross-cultural research on humor (Lu et al., 2019). The

context-dependent nature of humor becomes even more complex when considering the sociotechnical context of our GT event.

Method

We chose a GT event that was reported in the *Vanity Fair* article "Europe is Trolling Trump" by Laura Bradley (February 3, 2017). What began as the Europeans trolling Trump turned quickly into a GT event, with 60 countries from five continents around the globe. Each video provides a parody version of Trump's inauguration comment "America First" and then typically included humorous reasons why that country should be considered second. The videos were narrated in a Trump-like voice; the first impersonation was done by Greg Shapiro, and later by Shaun Streeter, Marouane Lamharzi Alaoui, and others. The Dutch video was broadcast on January 22, 2017 as part of the late-night TV show *Zondag met Lubach*, which then inspired Jan Bohmermann to create the German version, broadcast on *Neo Magazin Royale* on February 2, 2017. Bohmermann then challenged teams from other European countries to compete with the Netherlands for second place, and launched the website "everysecondcounts.eu" to host these videos, establishing the platform for this imagined community; forty-one of these videos were later available on the site.

Data Collection

Using a snowball method and following an initial sample from the article "Europe is Trolling Trump," data, in the form of brief videos, was collected between February 6 –24, 2017. We collected 100 publically available videos with the theme, "America First [country name] Second." All the videos are in English and they all begin with a variation of the statement "this is a message from the government of [country name]". Because we wanted to analyze the role of national culture in trolling, we included only videos that represent countries. Specifically, we

excluded videos that represent regions such as Europe or the Muslim world, unrecognized countries and other entities, such as Mars, Westeros, Commander Geek, or teenagers. In two cases, India and Israel, when we found two videos per country, we included only the first published video from each country. This resulted in 60 videos from 60 different countries.

Data collection occurred on five occasions, which we consider as stages in the progression of this event. The first stage included the six videos that appeared on the *Vanity Fair* article on February 3, 2017 (stage 1); the second stage included the eleven additional videos that the *Vanity Fair* article had added by February 6 (stage 2). Then, we collected videos through Google and YouTube searches, and the above website, on three occasions; because we wanted to find and capture all the newly published videos that were available at this point in time, we used both Google and YouTube searches on each of these occasions. We found eight videos on February 9 (stage 3), twenty videos on February 12 (stage 4), and fifteen additional videos on February 24 (stage 5).

Data Analysis

We uploaded the 60 videos into Nvivo 12, a software for qualitative data analysis. Then we conducted content analysis to address the first two research questions, and a comparative case analysis to address the third question. We developed a coding scheme from the data, using an iterative process of coding and discussion among the three authors. Codes were grouped into four broad categories: trolling behaviors, trolling tactics, structural codes, and content. The unit of analysis for trolling behavior, trolling tactics, and structural codes was the video as a whole. For the content category, the unit of analysis for coding was 15-second intervals; coding involved assigning codes to each 15-second segment of the video. Two coders coded the data

and an intercoder reliability test was conducted on 10% of the videos by a third coder. Intercoder reliability was high at 91.4% with a Cohen Kappa of K=0.829.

Then we grouped the videos into five stages based on their respective data collection date. For each video we wrote a brief case synopsis. Then, through continued comparative analysis between cases we identified themes that are common across the cases in a given stage. Using these themes we conducted a comparative case analysis between stages (Miles & Huberman, 1994), tracing CI patterns of replication, customization, and modification, for example (Yu & Nickerson, 2011).

Limitations

One of the limitations of this study is our reliance on the video country of origin as a proxy for national culture. First, it is evident that the professional culture of creators crosses national boundaries as evidenced by the competition that was launched and the formation of the website and the European comedy summit (http://europeancomedysummit.com/); this shared professional culture may mitigate the impacts of national culture. Second, not all creators are necessarily from the video country of origin, as was the case with Greg Shapiro, the American-born comedian who worked in the Netherlands. Thus, other national cultures may impact any of the videos without our ability to account for them. Still, it is safe to assume that most late-night TV show creators would be working for local TV channels located in the video country of origin for local audiences and it is therefore indicative of local national culture. In the end, despite these constraints, we chose to use the video country of origin as a decent proxy for national culture. Another limitation of the study is rooted in the way we categorized the videos into the five stages. To verify that the date of data collection corresponds with publications date we examined the date of videos publication on YouTube of videos that were still available there 3 years later,

and found that both the median date and the average date for videos in each stage were indeed within the timeframe of that stage. Despite these limitations, the data provide rich evidence to answer our research questions.

Findings and Discussion

We present our findings and discuss them under three sections, each addressing one of the research questions. Before we delve into addressing the research questions, we describe the data. The average video length was 4:07 minutes, ranging from 1:46 minutes (Russia) to 12:19 minutes (Germany). There was a significant correlation between the length of video and country rank on Hofstede's Individualism/Collectivism ($r=-.66$, $p<.05$) and length of video and country rank on Hofstede's Indulgence dimension ($r=-.29$, $p<.05$) (Hofstede et al., 2010). Collectivist cultures are considered to be less direct (more indirect) and less succinct (more elaborate) compared with individualistic cultures, which might explain why collectivistic countries had longer videos than individualistic countries (Gudykunst & Ting-Toomey, 1988; Gudykunst 1998). Furthermore, longer videos were correlated with countries that suppress individual gratification and regulate it through strict social norms. A little over half of the videos included an English narrator (52%), and an introduction that puts that video in the context of a local, satirical late-night TV show, in their own language (52%). Most of the videos (84%) included subtitles in English and/or their local language, and almost all included a closing request to have their own country second (93%).

1. Trolling Trump as Global Trolling

To address the first research question, we describe the trolling behaviors and tactics we found in light of prior research on online trolling. Overall, we found that the most frequent codes involved 198 references to Trump (i.e., "dear Mr. President"); 193 instances of use of Trump's

language, especially by using stereotypical phrases, (i.e., “total losers”, “nasty women”), and 157 instances of trolling behaviors, which includes repetitions of words or ideas (i.e., China, “America first”), or the use of vulgar language (i.e., “grab them by the…”); these frequent codes appeared in each of the videos. Other frequent codes included 190 references to the culture of the (video) sponsor country (i.e., Swedish meatballs) or 129 references to another country (many videos made references to the Netherlands, Mexico, Russia, and USA), and 114 instances of the hyperbole trolling tactic, in which the video exaggerated one’s strengths or another’s weaknesses (i.e., Israel claiming to be first and America second, or the Netherlands showing off their tradition of the Black Pete parade). These frequent codes that focus on Trump, his languages, and the common trolling tactic, were all expected as the trolling target of this event was Trump.

We found that typical trolling behaviors (Sanfilippo et al., 2018), such as repetitive, provocative, pseudo-sincere, and satirical trolling behaviors, characterized all the videos. Holistically, the videos exhibit a repetition of satirical provocation by mocking Trump’s inauguration speech and his “America First” campaign. The repetition occurred not only across videos, but also within videos. The most extreme repetition in a single video involved nothing but clips of Trump’s repeatedly saying “China” in various speeches and interviews, the video from China. Similarly, a repetition of clips of Trump referring to “Denmark” appears as part of the Swedish video. This repetitive trolling behavior across videos continued for a three-week period, where countries repeated each other. While the repetition resembled repetition patterns of Chinese collective trolling (Sun & Fichman, 2018), and state-sponsored trolling activities (Nyst & Monaco, 2018), the duration of the Chinese collective trolling event was only a few days, and state-sponsored trolling can last longer with several peaks. Our GT event was longer than the Chinese collective trolling perhaps due to the fact that video production is more time-consuming

than posting a text message or image on Weibo (a popular Chinese microblogging site), and it is possible that a global spread of an idea may take longer as it crosses national, language, and cultural boundaries, somewhat resembling the duration of state-sponsored trolling.

As can be seen in Table 2, typical trolling tactics (Fichman & Dainas, 2019) appeared frequently in the videos, when the hyperbole trolling tactics account for 23% of all tactics; in the hyperbole tactic the video would be exaggerating the weaknesses of either Trump, the US, or other countries, or the strengths of the creators' country. A typical example of this common trolling tactic appeared in the Sweden video, as the narrator, using Trump's voice and intonations, argues: "Sweden is the best country of all of Europe. Better than the Netherlands, better than Switzerland, and especially better than Denmark." The second most frequent trolling tactic was the derailment tactic (15%), which involves leading the conversation off track by latching onto an unimportant detail. For example, in the Sweden video, the narrator started with an articulation of Sweden's strengths, when mentioning Denmark, but switched into making insulting comments on the Danish people, saying that they are the "Mexicans of the Scandinavia." Then the video included random clips of Trump saying "Denmark" in his various speeches (repetition), and made random comments about a "nuke Denmark," IKEA, Trump organization, meatballs, furniture, and the wall bordering Mexico. Another common tactic was the politeness tactic (14%), which involves the use of thank you, please, or honorific mention, such as "Dear Mr. President". The (repetitive) politeness was used to mock the president by addressing him with an appropriate honorific but adding a sarcastic tone. Other trolling tactics included insulting (9%), lying (7%), sarcasm (towards others (6%) or the US (6%)), misappropriation of jargon (5%), swearing (4%) and personal attacks (4%) (Table 2). While each

tactic on its own may not constitute trolling, the amalgamation of tactics and trolling behaviors, repeated over and over again, does.

Thus, we conclude that trolling in this GT event resembles individual trolling behaviors, such as repetition, and tactics, such as hyperbole or derailment, with global manifestation.

2. The Role of Culture in Trolling Trump

Addressing the second research question, we focus attention on the role of national culture in GT. All the videos refer to national culture, language, food, flags, history and politics; each of the videos refers to their own sponsor country in a global context, while referencing other countries and the US.

All the videos included cultural references (#67), and the most common themes include instances of sponsor (country) culture (#190). The videos mentioned local conflict in the sponsor country (#27), and global events (#13), such as the war in Syria, and they referred to their own relationships with the US (#41). However, there were significantly more references to entertainment (#48) or music (#40), mentioning the Eurovision song contest, or the Brazilian carnival, for example. There were many instances of references to American culture (#91), the American flag (#82), American landmarks (#27), such as the Statue of Liberty, Hollywood (#24), and American history (#10). At the same time, there were as many or more references to the sponsor country's flag (#85), culture (#190), history (#82), food (#40), and tourist sites (#39). While the average references to American culture per video was two, the Dutch video included seven references to American culture. While we found these similarities across the videos we were curious to identify possible cultural differences in trolling between countries.

We chose to use country rank on Hofstede's dimensions (Hofstede et al., 2010) to test for correlations with trolling behaviors. Despite recent criticism on Hofstede's framework as dated and biased, and those questioning its validity, it is considered to be the most comprehensive and frequently cited cross-cultural framework. Hofstede's framework first proposed four dimensions of cultural values: individualism-collectivism, uncertainty avoidance, power distance, and masculinity-femininity; later added a fifth dimension, long-term orientation, and a sixth dimension, indulgence versus self-restraint, were added. Using Hofstede's dimensions is particularly informative for comparative cross-cultural analysis with a large number of countries. That said, we found scores for all of Hofstede's dimension for 36 of the 60 countries, and therefore analyzed only this subset of countries.

Based on Hofstede (2011, p. 9) power distance index (PDI) refers to "the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally". In general it is higher for Asian, African, East European, and Latin countries and it is lower for Germanic and Anglo-Saxon countries. We found that "Trolling behaviors" were negatively and significantly correlated with PDI ($r(28)=-.465$, $p=.01$), and that PDI was also significantly negatively correlated with the straight man trolling tactic ($r(37)=-.517$, $p=.001$). Videos from low PDI countries (Austria, Denmark, Israel, Sweden, and Switzerland) had higher frequency of trolling behaviors and use of the straight man tactic than videos from high PDI countries (Colombia, Hong Kong, Malaysia, Morocco, Philippines, and Russia). Low PDI characterizes societies that are more equal and pluralistic, which might provide a better environment for trolling or satire than in unequal societies where corruption is frequent. Many East Asian countries justify high power distance with Confucianism, which strives to stabilize society by imposing unequal relationships that include hierarchy between

individuals at home and work based on position in the organization hierarchy, age, and even between husband and wives (Lu et al., 2019). As such, it is possible that in high power distance countries, blatant trolling may be less acceptable because of efforts to avoid retaliation and destabilization. In fact, when it comes to humor, subordinates in the East avoid displaying humor in front of their leaders so they don't risk offending their leaders (Lu et al., 2019). However, the lower level of trolling behaviors in these countries may be due to their authoritarian regimes; blatant trolling behaviors may be less common, either due to higher likelihood of censorship or because of the fear of possible consequences offline, resulting from the perceived lack of anonymity online (Sun & Fichman, 2018). This might provide a plausible explanation for the lack of research on trolling in high PDI countries, compared with the proliferation of research on trolling in lower PDI countries. Future research may examine this proposition further.

Masculinity Index (MAI) "refers to the distribution of values between the genders … [from] very assertive and competitive and maximally different from women's values on the one side, to modest and caring and similar to women's values on the other" (Hofstede, 2011, p. 12). Masculinity is high in Japan, Italy and Mexico, for example, and low in the Nordic countries. We found that MAI was negatively and significantly correlated with the "Insulting" tactic ($r(19)=-.471$, $p=.042$). Videos from countries that are high on MAI (Japan or Hungary) had little to no occurrence of "Insulting", while videos from countries that were low on MAI (Denmark), used it frequently. However, because there were too few instances of insulting messages in our data to draw conclusions, we suggest that future research may examine the relationships between MAI and trolling; specifically, the extent to which femininity (low MAI) is more likely to foster trolling behaviors.

Uncertainty Avoidance Index (UAI) "deals with a society's tolerance for ambiguity…Uncertainty avoiding cultures try to minimize the possibility of [unstructured, unusual, novel, and surprising] situations by strict behavioral codes, laws and rules, disapproval of deviant opinions, and a belief in absolute Truth" (Hofstede, 2011, p. 10). UAI is higher in East and Central European countries and lower in Nordic and Chinese-culture countries (Hofstede, 2011). We found that UAI was significantly and negatively correlated with the "Sarcasm" tactic ($r(8)=-758$, $p=.029$). Videos from countries with strong UAI (Greece, Turkey, and Russia) did not use sarcasm in their videos, while countries with weak UAI used more sarcasm (Hong Kong and Malaysia). Because sarcasm creates ambiguity by using language that normally signifies the opposite, it was not evident in countries with strong UAI, where individuals are risk-averse, do not accept deviance, and aim to reduce confusion and ambiguity.

3. Collective intelligence patterns in global trolling

Addressing the third research question we examined the patterns of CI through comparative case analysis of video content within and between the five stages, to identify and trace the development of themes. We wanted to examine the impact of the original ideas (Nickerson & Yu, 2011) from the Dutch video on later videos, as trolling crossed national boundaries over a period of time. We also wanted to see how combination of ideas (Nickerson & Yu, 2011) and patterns of replication, modification, and customization (Wang et al., 2018) are manifested in this context. Through this analysis we identified an additional pattern of omission that in an extreme case led to a minimalist approach.

We found an evolving format of the opening statement and closing request, influenced by the original idea in the Dutch video. At first, videos followed a format of "America First, [country name] Second," demonstrating replication of the original idea, but with a slight

customization, indicating their own country name. Later, many renditions of this request appeared, including, for example: “America first, Netherlands Second, but can we say Lithuania third” (Lithuania, stage 2), or “Unlike other countries we are not aspiring to be second, but 51st” (Czech Republic, stage 3), or even “Israel First, America Second” (Israel, stage 4); these renditions demonstrate replications, modifications, and customizations combined.

We examined the development of the closing request in more detail and found that most of the videos in stage one, except for Germany and Belgium, simply stated “We totally understand that it will be America first, but can we say [country name] second”. Each of these two videos provided a particular path for future videos to follow. Germany introduced a joke that would be repeated frequently later, suggesting “If you were wanting to push the red button on us, then this is where we are located on the map” and showing a map which highlighted Italy instead. The Dutch video did not include a political map but used a satellite map of Earth, zooming out while making an argument about successfully building an ocean as a wall between them and Mexico; Germany took the map idea further by adding a political map into their closing remarks, mocking Trump’s knowledge of countries’ location on the map, while picking another country as a target. Belgium’s variation of the closing request was, “We totally understand it is going to be America first, but can we say Belgium second, or tenth… we don’t care.” In stage two, Luxembourg, Morocco, and Italy all included the bombing joke in their closing request, and again, a couple of videos here diverted in a way that affected videos in later stages. Specifically, Lithuania requested, “We totally understand if it is America first, Netherlands second, but can we say Lithuania third.” The video directly referenced the Netherlands, and by doing so, acknowledged their leadership in this instance of international affairs. In stage three, Iran added to the intricacy of global affairs and referenced several

countries that produced videos in prior stages, in their closing request, asking to be only ahead of their primary enemy, Iraq, stating, “We totally understand that it is going to be America first, and a lot of other countries already claimed to be second. We can’t compete with Netherlands, Switzerland, Portugal, Denmark, or other European countries, but how about Iran before Iraq”. Then, by stage 5, several videos explicitly suggested to bomb Iran, and Egypt (stage 5) highlighted the United States, instead of a neighboring country, as the target of its bombing joke. The rank order (and name) of countries included in the closing request attracted much attention in videos in later stages.

Both these notions, from Germany and Belgium’s modifications of the closing remarks, and their various later renditions, help show how CI is upheld within all of these videos across stages, perhaps because they build into the simple satirical statement a complex statement about international relations (which country is their enemy, which country has an important role in global affairs), and mock Trump’s impulsive behavior. The complex international relationships appear throughout the videos, not only as part of the closing request; most of the videos directly referenced other countries that had already posted a video by either insulting that country or directly drawing a reference from that other country’s video. The references to other countries indicate how each country pooled ideas to create their own videos; their references to other countries simultaneously honor and insult each other. This duality introduced a dynamic role changing in GT; countries that troll via their video have also been trolled by other countries in a way that resembled the changing roles of stakeholders from trolls to targets to bystanders in a Chinese collective trolling event (Sun & Fichman, 2018). These references to videos of other countries strengthen the ties between the creators of videos from individual countries as part of the imagined community of GT video creators, as they interacted with other countries, used a

special language, and used similar association of ideas in a manner that resembled other online imagined communities (Kavoura & Borges, 2016)

Unlike the closing request, which became more complex with each stage, the general format of the opening request did not change much until the fifth stage, when the video creators included criticism of their own country for joining the GT later in the game. The opening statement in stages 1-4 was: “This is a message from the government of [country’s name].” In stage five a variation on this introductory statement criticizes their own country, for example in videos from Hong Kong, Syria, and Taiwan. The Hong Kong video’s opening statement said instead: “This is a message on behalf of Her Majesty’s request because the government of Hong Kong is too busy right now.” Syria’s video opening stated: “This is a message on behalf of all people from Syria because the government is too busy.” And Taiwan’s opening statement turned it into a satirical comment on a controversial international affair, when it said: “This is a message from the government of China, but you can just call us Taiwan.”

Beside the development of ideas in the opening and closing remarks, other noticeable ideas evolved over time, including references to China. The references to China introduced an additional pattern of CI, involving omission that in the extreme case of China’s video led to a minimalistic approach. China was not mentioned in the Dutch video, and only briefly mentioned in stage one, but by stage five nearly all the videos incorporated a type of insulting or degrading comment towards China. In the third stage, China’s three-minute video included nothing but clips of Trump saying China over and over again; the clips were taken out of Trump’s speeches and interviews. This repetition ridiculed Trump by demonstrating his obsession with China, occasionally saying “I love China”. The extreme example of the video from China kept a minimum criterion as part of the event but excluded all other themes from the original idea, even

the opening and closing remarks. The video title "China welcome trump in his own words #everysecondcount" connected it to the GT event by referencing that website. Instead of an impersonation of Trump's voice, his actual voice and words were used. The exclusion of themes brought the video into the bare minimum, yet the message of trolling Trump, as part of the GT event, was loud and clear.

Omission of ideas was evident also in how vulgarity was used in videos (specifically, tracking the average usage of the sexual references and swearing) when at first we observed an increase from stages one through four, but in stage five it dropped off. In fact the process of omission in CI is not unique to GT and has parallels, for example, in the development of Wikipedia articles. While much has been written about mass deletion by trolls and vandals on Wikipedia (Viegas et al., 2007; Shachaf & Hara, 2010), articles on Wikipedia occasionally expand to the point in which they require reevaluation and reduction in size. For example, the Wikipedia article about trolling expanded in its first two years to over 54,000 words, and in late 2006 was intentionally cut down to 17,000 words; this was not an act of vandalism and was not reverted. The process of omission in CI raises a question for future research about how CI patterns of development are related not only to the starting point but also to an ending or declining point.

Conclusions

The analysis of this GT event is timely and critical as it involves trolling across 60 countries, the largest number of countries in research on trolling and the only comparative trolling analysis. It is the first study to examine the role of national culture in trolling, and it is the first to analyze videos as a medium of trolling. Furthermore, it adds a much-needed account

of the CI process of satirical video trolling, and suggests an additional pattern to enhance existing scholarship.

We found that GT exhibits repetitive, provocative, pseudo-sincere, and satirical trolling behaviors, across all videos, regardless of sponsored countries. While trolling behaviors were common across national boundaries, at times, they correlated with Hofstede's dimensions of cultural differences (Hofstede et al., 2010). Specifically, countries with high PDI were less likely to exhibit trolling behaviors in their videos than those with low PDI scores. Countries with strong UAI avoid sarcasm while it was common in videos from high UAI countries. Countries with high MAI were less likely to use insulting language in their videos compared to low MAI countries. Future research may examine the extent to which these relationships exist in other GT events, and whether other competing variables are at play, instead of cultural dimensions. This study demonstrates that trolling behaviors are global in nature, and by doing so, it extends prior research on trolling that focused on trolling in particular countries, mostly Western countries. Furthermore, cultural differences, offline and online, attracted much prior research, and this study expands this research into the realm of political and humoristic trolling.

The study also examined CI patterns; we found that similar to prior research, patterns of innovation, replication, and customization were evident, as well as a clear impact of the original idea, from the first Netherlands video, and throughout the five stages. As others have shown, creativity in mass crowd production is a result of combination of ideas (Yu & Nickerson, 2011), through replication, modifications, and customization, as well as the influence of the original idea (Wang et al., 2018), and others have discussed these in the context of Thingiverse 3D models, for example (Kyriyakou et al., 2017). However, we identified an additional pattern of omission that in the extreme case led to a minimalist approach, excluding the entire original idea.

We found support for these patterns in 1) video creation, while prior research focused on text or designs; 2) across geographical, political, and national boundaries, while prior research largely disregarded these boundaries; 3) online with naturally evolving creative processes that spanned three weeks.

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