'Enclaves of exposure': A conceptual viewpoint to explore cross-ideology exposure on social network sites

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Abstract

Previous studies indicate mixed results as to whether social media constitutes ideological echo chambers. This inconsistency may arise due to a lack of theoretical frames that acknowledge the fact that contextual and technological factors allow varying levels of cross-cutting exposure on social media. This study suggests an alternative theoretical lens, *divergence of exposure* – co-existence of user groups with varying degrees of cross-ideology exposure related to the same issue – as a notion that serves as an overarching perspective. We suggest that mediated spaces, such as social media groups, can serve as *enclaves of exposure* that offer affordances for formation of user groups irrespective of offline social distinctions. Yet social elements cause some of them to display more cross-ideology exchange than others. To establish this claim empirically, we examine two Facebook page user networks ('Sri Lanka's Killing Fields' and 'Sri Lankans Hate Channel 4') that emerged in response to *Sri Lanka's Killing Fields*, a controversial documentary broadcast by Channel 4 that accused Sri Lankan armed forces of human rights violation during the final stage of the separatist conflict in Sri Lanka. The results showed that the Facebook group network that supported the claims made by Channel 4 is more diverse in terms of ethnic composition, and is neither assortative nor disassortative across ethnicity, suggesting the presence of cross-ethnicity interaction. The pro-allegiant group was largely homogenous and less active, resembling a passive echo chamber. 'Social mediation' repurposes enclaves of exposure to represent polarized ideologies where some venues display cross-ideology exposure, while others resemble an 'echo chamber'.

Keywords: *Cross-ideology Exposure, Political Controversy, Social Media, Sri Lanka, Ethnic Conflict*

Introduction

This study develops an alternative theoretical perspective to examine online cross-ideology exposure that recognizes the multifaceted nature of online interactions. The number of research studies that examine cross-ideology exposure continues to increase, especially work that focuses on the emergence of echo chambers: exposure to information only from like-minded individuals (Bakshy, Messing, & Adamic, 2015b), or contexts in which connections are made preferentially within a group rather than with outsiders (Bruns, 2017). Current literature on the topic indicates mixed results as to whether or not new media result in ideological polarization. While some studies point to the lack of online cross-ideology exposure (e.g., Conover, Gonçalves, Flammini, & Menczer, 2012; Himelboim, McCreery, & Smith, 2013) some other studies demonstrate the ability of social media platforms to increase exposure to challenging viewpoints (e.g., Bakshy et al., 2015; Kim, 2011) . Studies also indicate that online debates indicate both confirmation and disconfirmation bias (i.e., echo chambers as well as 'trench warfare' where opinions encounter confirmation as well as contradiction) (e.g., Karlsen, Steen-Johnsen, Wollebæk, & Enjolras, 2017). Political polarization and cross-ideology exposure are indicators of contextual as well as ideological pressures. Garcia, Abisheva, Schweighofer, Serdült, and Schweitzer (2015) provide evidence of the effects of time proximity to a political event on network polarization. They examine online interaction among politicians and suggest that cross-party connectivity increases when politicians share similar interests and competences. Barberá, Jost, Nagler, Tucker, and Bonneau (2015) show how Twitter responses related to certain events – such as the Newtown shootings in 2012 – evolved over time from a national conversation to a polarized exchange. The possibility of cross-ideology exposure on social media is high, given that social media platforms can facilitate interaction among users regardless of their ideological differences.

However, conditions for such interaction relate more to contextual factors, rather than whether social media affordances could allow such interaction or not.

Inconsistency among previous studies raises the need for overarching theoretical perspectives that can capture the multifaceted nature of cross-ideology exposure on new media platforms. In particular, mixed results in related studies highlight the need to look beyond the question of whether or not social media platforms constitute echo chambers. This study proposes 'enclaves of exposure' – mediated digital media spaces that offer affordances for formation of user groups irrespective of offline social distinctions, such as ethnicity and political orientation – as an alternative theoretical lens to examine cross-ideology exposure. We also argue that 'divergence of exposure' – co-existence of user groups with varying degrees of cross-ideology exposure related to the same issue – can explain the co-existence of different types of 'chambers', serving as an all-encompassing notion that can unify the echo chambers' discourse. We demonstrate this empirically by examining divergence of exposure in contexts of political controversy that emerged on Facebook in response to *Sri Lanka's Killing Fields*, a controversial documentary broadcast by Channel 4, UK in June 2011.

Studies of controversy are quite common in the field of Science and Technology Studies (see Marres & Moats, 2015; Venturini, 2010). The field of Social Media Studies, however, could benefit from work that examines cross-ideology exposure in times of political controversy. We build this study on the premise that while interaction between common political groups, such as Republicans and Democrats in the US, may be limited by the tendency to interact with like-minded people (Himelboim et al., 2013), issues of high intensity, such as ethnic conflicts, may trigger online inter-group interaction among some social media users. This is possibly due to the fact that social media platforms are convenient and safe venues for interaction beyond geographic boundaries. However, the content exchanged in such interaction may be of an extreme nature, such as hate speech.

An inquiry into the multiplicity of cross-ideology exposure, or divergence of exposure on social media as we call it, with regard to highly controversial political issues should take into account the nature of the actors involved, the platforms of engagement, and the nature of the content exchanged. This is important as the way political actors interact with those who support different political opinions may depend, at least with regard to highly controversial issues, on where the topic is discussed and by whom. We examine online cross-ideology exposure in the context of controversial war crime videos broadcast by Channel 4, called *Sri Lanka's Killing Fields*, in which the Sri Lankan armed forces were accused of human rights violations. This constitutes a case where groups directly related to the issue display characteristics of a highly divided political community. As Orjuela, Herath, and Lindberg, (2016) note, the two main national groups (Sinhala, the majority, and Tamil, the largest minority group) were posed against each other and the war has resulted in further polarization between these two groups. The study is significant because it discusses dynamics of interaction related to a highly intense political issue from Sri Lanka, a context that is rarely looked at in social media studies and a controversy that was debated on the level of United Nations. While there is considerable work addressing political polarization in the US, and Europe, non-Western contexts have their own characteristics and also merit study.

Related Literature

The following literature review is organized into two sections. The first section discusses previous studies that examine cross-ideology and social media echo chambers. Our goal is to highlight the contradictory nature of previous findings and suggest divergence of exposure as an alternative theoretical perspective. In the second section, we discuss the context of the specific case (i.e., Facebook pages created in response to Channel 4's *Sri Lanka's Killing Fields*) that we use as an empirical context to examine divergence of exposure.

Political Polarization on Social Media

Carpini, Cook, and Jacobs (2004) claim that political discussion and deliberation is important for society as they can lead to individual and collective benefits, and that the Internet can serve as a useful tool for promoting useful deliberation. However, previous work on political polarization and cross-ideology exposure on the Internet show mixed results. Several scholars argue that Twitter users tend to form politically homogenous clusters, follow like-minded information sources, and are less likely to be exposed to cross-ideological content (Conover et al., 2012; Himelboim, 2014b; Himelboim et al., 2013). Similarly, Grömping's (2014) study on Facebook posts related to the 2014 general election in Thailand supported the echo chambers hypothesis. Taking a somewhat different perspective, Wojcieszak and Mutz (2009) argue that deliberation on social media occurs incidentally, rather than purposefully. For instance, individuals are likely to be exposed to different opinions in non-political discussion groups. Arguably, this homogeneity may arise in part from how networks are formed within social network sites such as Facebook and Twitter. These networks are created based on friend or follower requests, and users may consider the characteristics of potential interlocutors when generating or responding to these requests. This selectivity may lead to users choosing a network whose members display similar political viewpoints.

Although the aforementioned studies point to the lack of cross-ideology exposure on the Internet, several other studies provide conflicting evidence. For instance, Dubois and Blank (2018) argue that political interest and media diversity reduce the likelihood of an Internet user being in an echo chamber. Similarly, Kim (2011) found direct and indirect positive effects of the use of social network sites and exposure to cross-cutting information. Bakshy et al. (2015) also claim that there is significant room for cross-ideology exposure on Facebook. They also argue that social media exposes users to ideologically different

viewpoints, rather than allowing users to opt out of them. These mixed results indicate a lack of unity in the echo chambers discourse.

Cross-ideology exposure on social media relates to at least two factors. First, new media affordances enable formation of enclaves of exposure that can allow and facilitate interaction (e.g., the ability to create groups and pages, join those pages, and engage via commenting, liking, and sharing). Second, political contexts in which people use those affordances motivate or demotivate such interaction. Therefore, examining cross-ideology should be situated within specific contexts considering interaction between these two elements. This view is consistent with the findings of the study conducted by Carpini et al. (2004) that stress the importance of understanding contextual factors, such as the nature of actors participating, information available, prior beliefs, and real-world conditions in realizing the potential of discursive politics. While a macroscopic viewpoint (e.g., Bakshy, Messing, & Adamic, 2015) can reveal the extent of cross-ideology exposure and inter-party interaction, an issue-based micro-level approach provides a more contextual understanding of nuances in interaction.

Lee (2016) suggests that, while polarization is not unique to social media, it is derived from the polarized social context within which social media users engage in discussion. Quintelier, Stolle, and Harell (2012) show that participation resulted from diverse social networks can increase the chances of meeting politically diverse others. Moreover, Barberá et al. (2015) show that while information exchange related to some issues resembles an 'echo chamber' (for example, concerning the US government shutdown in 2013), discussions about events like the Boston Marathon bombings do not display opinion polarity. Moreover, they claim that some discussion topics on social media change over time, transforming from national conversations to polarized exchanges. The above studies indicate that cross-ideology exposure is a multifaceted phenomenon that should be understood in the context of broad

topical, political, and technological contexts. As Vaccari et al. (2016) note, "understanding political dynamics in choice-enhancing platforms may be better served by an appreciation that different users have different traits, preferences, and social networks that affect their behaviors and experiences rather than an assumption that most or all users employ the selective features of social media to pursue the same goals, thus leading to fairly predictable and monolithic outcomes."

We suggest, as mentioned previously, that social media affordances allow formation of enclaves of exposure that offer possibilities for cross-cutting exposure. As cross-ideology exposure is a context-specific phenomenon, some enclaves may resemble echo chambers while others may evidence interaction among polarities. Accordingly, researchers need to examine divergence of exposure across a range of enclaves to fully understand the nature and extent of cross-ideology exposure related to an issue. Marcuse (1997, p.242) defines an enclave as 'a spatially concentrated area in which members of a particular population group, self-defined by ethnicity or religion or otherwise, congregate as a means of enhancing their economic, social, political and/or cultural development'. Though the term 'enclave' connotes geographic concentration (see Marcuse, 1997; Rhee, 2015; Turner, 2007; Zhang & Xie, 2016), it can serve as a metaphor to conceptualize online spatial concentration. We intentionally use the words *enclave* and *exposure* together for several reasons: 1) social media affordances enable the creation of defined (concentrated) virtual spaces (e.g., Facebook pages/groups) related to socio-political issues; 2) these spaces offer full potential for exposure and interaction regardless of user attributes; 3) social dimensions of those spaces are driven by self-defined attributes of members. This view is different from the way Campbell and Golan (2011) view digital enclaves as spaces whose purpose is to maintain distance and distinguish from other communities. Instead, affordances used to create enclaves of exposure invite participation from various groups yet display significant differences in

terms of the characteristics of members, cross-ideology exposure, and the nature of content exchanged. Accordingly, the notion of enclaves of exposure suggests that while technological affordances offer possibilities for seamless cross-cutting exposure, social elements repurpose those possibilities in different ways that can result in varying degrees of interaction among polarities. Therefore, enclaves of exposure are 'socially mediated technological spaces' that display divergence of exposure.

Our goal is to establish the above claim empirically by examining the following: 1) co-existence of opposing viewpoints related to the same issue in different enclaves of exposure on the same platform, and 2) differences between enclaves in terms of user composition and the extent of cross-cutting exposure. We examine Facebook activism related to the controversial documentary *Sri Lanka's Killing Fields* broadcast by UK broadcaster Channel 4 as the empirical context for analysis.

Political Polarization, and Sri Lanka's Ethnic Conflict

Controversies, according to Venturini (2010, p.261), are "situations where actors disagree (or better, agree on their disagreement)." He further notes that controversies begin with actors discovering that they cannot ignore each other and end when they agree on a compromise to live together. Venturini's conceptualization of controversies is characterized by the involvement of different actors; a dynamic 'social' reduction resistance where actors tend to highly disagree; and debate and conflict. Questions and incidents surrounding the end of Sri Lanka's ethnic conflict indicate that this issue constitutes a controversy, and understanding behavior related to this issue requires awareness of the conflict in historical context.

The island nation experienced a ravaging ethnic conflict and separatist war for almost three decades. Post-war Sri Lanka is a highly polarized society, with the Sinhalese majority on one side and the Tamil minority on the other side. As Silva (2010) notes, reconciliation

between the main parties needs to be a long-term process that includes strengthening democratic processes and institutions. The roots of Sri Lanka's ethnic conflict date back at least to the 1950s, the period in which nationalism and patriotism started to grow stronger. According to Uyangoda (2006), Sri Lanka's ethnic conflict is centered around the question of state power and, from the perspective of the Tamil minority, this has been expressed in their exclusion from sharing power. According to Uyangoda, differences in the way Sinhalese and Tamil nationalisms evolved in the post-independence context directly affected the rise of the conflict. While Sinhalese nationalism developed as a hegemonic ethno-nationalist project, Tamil nationalism evolved envisioning a Tamil 'nation' with shared sovereignty.

The deterioration of the relationships between the two main ethnicities in Sri Lanka (i.e. Sinhala, the majority, and the Tamil minority) evolved to a situation where groups that claimed to represent the Tamil minority sought a more militant approach (Feith, 2010). The Liberation Tigers of Tamil Eelam (LTTE), founded by Velupillai Prabakaran, was the most powerful militant group among them. LTTE fought for self-determination, with the goal of declaring a separate nation on the island, which they named 'Tamil Eelam'. This group used extremely violent means to fight for its cause and, as La (2004) noted, it was known for political assassination, suicide bombing, and the recruitment of child soldiers. LTTE attacked the main, and then only, international airport in the country, the headquarters of the Central Bank, and many public places, including the main railway station in the capital Colombo. There has been a spiral of attacks and counter-attacks between LTTE and the government forces since 1983, resulting in a loss of an estimated 80000 people (Feith, 2010) . Many attempts to negotiate a settlement, such as the 1985 Thimpu Talks, the 1987 Indo-Lanka Accord, and several rounds of peace talks did not result in a successful outcome (Bouffard & Carment, 2006). The government led by President Mahinda Rajapaksha sought a military solution to the conflict, and the LTTE insurgence was brought to an end in 2009.

The end of Sri Lanka's civil war left allegations of war crimes. Several countries, including Britain, France, Canada, Germany, and Switzerland called for a special session of the United Nations Human Rights Council to discuss these allegations (Uyangoda, 2010). The British broadcaster Channel 4 broadcast its highly controversial documentary, *Sri Lanka's Killing Fields*, on 14 June 2011, which claimed to expose war crimes committed by the Sri Lankan government forces during the end of the war. The documentary emphasized the urgency of conducting an international inquiry into this issue, as recommended by the panel of experts appointed by Ban Ki-moon, the Secretary General of the UN. Two contending narratives emerged in response to the documentary. On one side were those who supported the documentary and treated it as evidence against the Sri Lankan government. On the other side were who claimed the TV channel supported LTTE terrorism and did not have genuine evidence to prove human rights violations by the Sri Lankan army. According to *BBC* (2011), the Sri Lankan government directly questioned the credibility of the documentary.

LTTE was an extremely violent organization banned in Sri Lanka and several other countries. Given their reluctance to engage in democratic dissidence alongside the acts of extreme terror they committed, pro-LTTE dialog was almost non-existent in the 'Sinhalese-south'. Given the popularity of the government after defeating the LTTE, the political atmosphere in the south did not help to develop a dialog within the geographic boundaries of the country that critiqued the government's behavior. Social media served as a platform for people from different parts of the world to share news about Sri Lanka's ethnic conflict, especially the controversial allegation of human rights violations, and to engage in debate. Pro-LTTE websites, such as www.tamilnet.com, aggressively supported the cause of the LTTE. According to Feith (2010), the Tamil diaspora communities are found in countries such as England, Canada, the United States, Australia, Germany and Switzerland, and they

maintain links to Sri Lanka through the Internet. A significant number of politically active Sinhalese people also live overseas. These groups may find social media a convenient means of engaging in politics related to the ethnic conflict. Feith notes that Sri Lanka was a divided nation by 2010, with the Sinhalese population victorious and the Tamil minority leaderless. Although it is possible that social media may be segregated to reflect this divide, people from the main two groups as well as other groups may find social media platforms to be safer and relatively more comfortable venues for interaction.

Sri Lanka's case is appropriate to examine the proposition that social media platforms allow formation of digital enclaves that can display divergence of exposure, because it shows a highly polarized offline political context, with two main ethnic groups involved, and a highly controversial political issue that may spur debate. The pro-dissident perspective is more controversial in this case, especially from the perspective of the Sinhalese majority, as it accuses the government – the country's primary power structure – of war crime in a conflict against an extremely violent group of militants. In that light, we examine divergence of exposure in Facebook groups devoted to discussing *Sri Lanka's Killing Fields*.

Method

Data

Two Facebook page network datasets were obtained using the NodeXL social media data collection feature. 'Sri Lanka's Killing Fields: A Channel 4 Investigation' is a Facebook page created to promote Channel 4's documentary of the same name. 'Sri Lankans Hate Channel 4' rejects the claims made in the documentary. These two pages had the greatest number of members in comparison to other pages that discussed the issue. Nodes in both networks represented individuals who either liked or made comments on posts, and the edges were created based on co-likes and/or co-comments.

As Grasmuck, Martin, and Zhao (2009) suggested, Facebook profiles are spaces where ethno-racial identities are salient and elaborated. For instance, Hofstra and de Schipper (2018) demonstrate how Facebook users' first names can be used to predict their ethnicity. As the two groups subject to investigation speak different languages (i.e., Sinhalese and Tamil), names (last name in particular) carry unique details. For instance, according to De Silva (2009), personal names have been used as markers of caste among Sinhalese people. Two Sri Lankan coders who were fluent in Sinhalese, Tamil, and English examined Facebook profile data obtained through the NodeXL API, including names and comments, to identify the ethnic backgrounds of users in both networks. Those actors' names that could not be confidently categorized as members of any ethnicity related to the subject under discussion were put into a separate category ('other'). The classifications of the Sri Lankans Hate Channel 4 were identical (Krippendorf's Alpha: 1.00), and all except two entries for Sri Lanka's Killing Fields were similar between the classifications (Krippendorf's Alpha: .998). Due to the high Alpha, the first coder's coding was used for analysis. The 'Sri Lanka's Killing Fields' network returned by the NodeXL API included 1032 nodes, and the 'Sri Lankans Hate Channel 4' network returned by the API included 869 nodes. According to the coding, Sri Lanka's Killing Fields included 518 Tamils (the minority), only 176 Sinhalese (the majority), and 339 members representing ethnicities categorized as other than Sinhalese or Tamil. Sri Lankans Hate Channel 4 included 798 Sinhalese, 63 other, and only 8 Tamils.

Subsequent data analysis focused on identifying properties of the networks in general, visualizing the networks and identifying differences. Basic network metrics such as clustering coefficient and graph density were calculated in R/igraph (igraph.org/r/, Kolaczyk & Csárdi, 2014). Visualizations were created in Gephi (gephi.org) with nodes colored based on ethnicity and activity type (i.e. 'likers' and 'commenters'), and were compared to identify whether there was a pattern of likes and comments that could be identified in relation to a

specific ethnicity. In NodeXL datasets, those who only like posts are identified as likers, while those who either comment and like or only comment on posts are labeled as commenters. We used a more conservative approach where we also labeled every individual who made more likes than comments as likers. Commenters are considered to be more engaged with the issue than likers, as commenting requires more effort than liking.

Quantitative analysis was followed by a content analysis of the comments in each network. Duplicate comments were removed from the content analysis, and the final lists included 303 comments from Sri Lanka's Killing Fields and 58 comments from Sri Lankans Hate Channel 4. Comments were classified into 12 categories, 10 of which were in opposing pairs: pro or anti-government, pro or anti-LTTE, pro or anti-Channel 4, pro or anti-Sinhala, pro or anti-Tamil, moderate, and other. The government and LTTE categories assess whether sentiment is expressed in terms of the protagonists as political actors, while the Sinhalese and Tamil categories assess the extent to which ethnic differences underlie the sentiments. The Channel 4 categories were added because there are strong sentiments concerning this UK news organization as a third, outside actor (reflected in the two Facebook groups). As noted before, the Sri Lankan government questioned the legitimacy of the claims made by Channel 4. Sentiments within the south had a more anti-Channel 4 tone (see, e.g., *Colombo Telegraph*, 2013). However, there were also groups that supported the documentary. The category 'moderate' was applied when the commenters took a more neutral perspective and critiqued the issue considering claims made in the documentary as well as the atrocities committed by the LTTE. The category 'other' was used for comments that did not express any sentiments. The vast majority of comments were in English, and only a few number of comments were made in any of the Sri Lankan native languages. A Sri Lankan native fluent in both languages classified the comments to ensure that contextual cues (such as references to regional issues and actors) were taken into consideration. A second coder, also a Sri Lankan native,

classified comments again (Krippendorf's Alpha: .998). Another analysis focused on transactivity (Berkowitz & Gibbs, 1979), the other-directedness of comments, to help assess the extent to which participants were interacting with each other beyond merely expressing their sentiments in general. Comments were coded as transactive if they referenced other users by their name or account name, used pronouns such as 'you' in a manner indicating transactivity, or otherwise indicated orientation towards specific others or the comments of specific others in the Facebook space. (The NodeXL download does not record comment sequencing or thread structure, which would have been helpful, but an analysis based on comment contents provides more explicit evidence of transactivity than comment sequencing, and hence is more conservative.)

Results

We examine enclaves and divergence of exposure under three subtopics: 1) differences between ethnic composition and activity levels, 2) inter-ethnic interaction/cross-ideology exposure, and 3) opinion polarity.

Ethnicity and Activity

Networked technologies offer new affordances that shape how people interact in networked publics and provide new possibilities of interaction (boyd, 2011). However, researchers should also pay attention to how the design of the platforms constrains behavior. The previous design of Facebook included the 'like' facility for people to express their interest, but the absence of a 'dislike' or 'angry' button constrained action, as content could be posted that users disliked. (The interaction and our data gathering occurred prior to Facebook's introduction of alternative emoticons in 2016.) Yet Facebook users could add comments to posts, which meant that opposing viewpoints could emerge in the comments. Therefore,

examining patterns of liking and commenting could help characterize peoples' level of activity in Facebook groups.

Table 1 shows a cross-tabulation of the network type and activity type. The results show that 92.2% of the total number of commenters are in Sri Lanka's Killing Fields (SLKF) network, the pro-Channel 4 network supporting a more controversial claim than its counterpart. Sri Lankans Hate Channel 4 (SLHC4) includes a considerably lower number of commenters (7.8% within the activity type). Compared to SLKF, a relatively more engaged group (19.4% of commenters in the network), SLHC4 is predominantly a co-like network consisting of 98% likers.

[Table 1]

Table 2 shows the ethnic composition in both networks. The results given in Table 2 show that 98.5% of the total number of Tamils in this study belong to the SLKF network while 81.9% of Sinhalese in this study are in SLHC4. Users in SLHC4 are more homogeneous than the SLKF network, as 91.8% of users in the network are Sinhalese. SLKF is more diverse in terms of ethnicity (Tamils: 50.1%, Sinhala: 17%, and Other: 32.8%).

[Table 2]

Two chi-square tests were tested to examine differences in liking and commenting among the members of the three groups (Sinhalese, Tamils, and others) in both networks. As shown in Table 3, activity types and ethnicity are not equally distributed across the two networks. Moreover, the chi-square test revealed differences in ethnic composition in the main activity types.

[Table 3]

From an overall point of view, the above analysis indicates that differences in activity via liking and commenting and ethnicity characterize differences between the two Facebook groups. Controversial pages (Sri Lanka's Killing Fields in this case) attracted more activity. This shows that while the affordances of the platform were uniform, engagement was not. The anti-Channel 4, hence pro-Sri Lankan government, network was dominated by the Sinhalese majority.

Inter-ethnic Interaction

Table 4 shows several network metrics. Global transitivity (or clustering coefficient) measures the probability that two vertices that are both connected to a third vertex are also connected to each other. This measure indicates the extent to which the connectivity of a network is nonuniformly distributed, perhaps due to social processes such as triadic closure. Clustering in both networks was significantly greater than expected at random,[1] and had values typical of social networks (Newman, 2010, p.237). Mean geodesic distance was short, but consistent with what we expected for small random networks (Newman, 2010, p. 420). Each graph had one weakly connected component, meaning that every pair of actors was related either directly or indirectly by Facebook actions. The Louvain method (Blondel, Guillaume, Lambiotte, & Lefebvre, 2008) identifies densely connected clusters in the network that may correspond to communities by heuristically approximating the maximum of Newman's modularity statistic (Newman, 2010, p. 224). The modularity statistic was higher in Sri Lanka's Killing Fields, indicating that it had a more definitive community structure. Ethnic assortativity is discussed below.

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[1] Using $C = k/(N-1)$, from Newman (2010), where k = average degree and N = number of vertices, a random model for SLKF has expected value $C=0.0482$ and for SLHC4 has $C=0.0996$.

[Table 4]

Figure 1 shows the network graphs visualized using the Force Atlas 2 layout algorithm, with nodes sized by degree and colored based on ethnicity and activity type. As shown in Figure 1 graph *a*, commenters (blue nodes) had considerable presence in the Sri Lanka's Killing Fields Network. This indicates that people were more active in the pro-dissident network, in the sense that members are probably more engaged to think of and type in comments as compared to merely liking a post with a single click. However, the high level of commenting in Sri Lanka's Killing Fields network can also be the result of the unavailability of a disliking facility, because those who have opposing viewpoints would have to express their discontent by making comments.

[Figure 1]

The networks were re-colored based on ethnicity of members. Figure 1 graphs *b* and *d* show ethnic composition of each network. It was noticeable that the Sri Lanka's Killing Fields had a high level of people from the ethnic majority (nodes in yellow color) and other ethnicities (mainly people from outside Sri Lanka). However, the Sri Lankans Hate Channel 4 network appeared to be quite homogenous, and the Tamil minority had almost no presence in this network. This raises the question of whether the presence of members from the opposing camp (the majority in this case) may have triggered changes in activity in the Sri Lanka's Killing Fields network. When the graphs *a* and *b* (Figure 1) were compared, it was noticeable that commenting happened mainly in clusters where people from the opposing viewpoints were present. This showed that the ethnic composition of the network may have affected the nature of activity.

To examine inter-ethnic interactions further, nominal assortativity was calculated for both networks. Assortativity is a variant of correlation, and it is a measure used to examine

selective mixing among vertices (Newman, 2010, section 7.13) As in correlation, assortativity ranges from +1 to −1: a perfect assortativity (+1) means that vertices of the same category are connected with each other, and a perfect disassortativity (−1) is when vertices only connect to those of different categories. Here, the category of interest is ethnicity. Nominal assortativity for Sri Lanka's Killing Fields was 0.0792, and it was 0.001 for the Sri Lankans Hate Channel 4 network. Values close to 0 indicate that connectivity in the network was made nearly independent of ethnicity. This means that there were likely to be inter-ethnic as well as intra-ethnic interactions as defined by 'liking' and commenting on the same posts, especially in the Killing Fields network as it had a greater diversity of ethnicities present.

Opinion Polarity

Comments in the Sri Lanka's Killing Fields group were examined and found to include sentiments ranging from anger and rejection to support for the claims made in the documentary. Further analysis was undertaken to more systematically examine the nature of comments. Table 5 shows a classification of comments in both networks. From an overall point of view, more than 50% of the comments made in the Sri Lanka's Killing Fields network opposed at least one of the main parties involved (anti-government: 24.75%, anti-Channel 4: 16.17%, anti-LTTE: 12.87%). The content analysis also showed that both perspectives (anti-government and anti-LTTE, and pro and anti-Channel 4) were represented in the comments in this network. Although two main ethnic groups were involved in Sri Lanka's conflict, comments against each other's ethnic group were relatively rare. This indicates that the discussion in the SLKF network focused more on supporting or critiquing the documentary and related incidents. This is a positive sign from the perspective of inter-ethnic interaction, as discussants debate the conflict rather than generalizing their comments towards others' ethnicity. Sri Lankans Hate Channel 4 included 58 comments, out of which

only 4 were pro-government while 20 comments were either anti-LTTE or anti-Channel 4. This indicates that while the network is passive in terms of engagement via comments, only a few comments tend to support the government. In both networks the focus is on what participants are against. This indicates one of the biggest barriers that Sri Lankans and other stakeholders of the conflict, such as the Tamil diaspora, face in terms of reconciliation. As people tend to oppose main stakeholders, especially the government or the LTTE, building trust is challenging at best. However, inter-ethnic interaction, at least on social media platforms such as these Facebook groups, have the potential to act as forums for dialogue. Inter-ethnic interaction, indicated by transactivity, can show whether this happens on these networks.

In the Sri Lanka's Killing Fields group, 63 of 303 comments (20.97%) met our criteria for transactivity (Table 5), indicating a moderate yet appreciable level of interaction in this network. This interaction is often in conflict, but intersubjectivity does not require agreement (Matusov, 1996). In contrast, no comments in Sri Lankans Hate Channel 4 met our criteria for coding as transactive.

[Table 5]

Discussion

In the context of activism related to Channel 4 videos about Sri Lanka's ethnic conflict, Sri Lanka's Killing Fields showed high levels of commenting engagement in the clusters where actors from opposing viewpoints were represented. Facebook's liking affordance offers a low-cost action to indicate sympathy, while the commenting affordance requires more effort to enact, which might indicate a stronger commitment to engage but was also the only option for indicating negative affect. The presence of people from the opposing camp and the high level of commenting by those actors could indicate that the absence of a disliking affordance

forced them to make comments. In contrast, Sri Lankans Hate Channel 4 was a considerably homogenous group dominated by the Sinhalese majority. Liking was the main activity in this network, while the SLKF network had a higher level of commenting. The assortativity and transactivity results suggest that actors from different ethnicities interacted with each other in the SLKF, showing that ethnic diversity and inter-ethnic interaction existed mainly in the network that supported the more controversial dissident perspective. As both of these pages used the same set of affordances offering similar potential for cross-cutting exposure, they can be seen as enclaves of exposure related to the controversy. Yet they evidenced different levels of cross-ideology exposure. This, we argue, reflects aforementioned divergence of exposure on the same platform. According to Vaccari et al. (2016), it may be difficult to locate and participate in venues that offer opposing viewpoints ('contrarian clubs') for those who seek political disagreement. Based on the specific case examined in this study, we argue that the asymmetry in participation in different 'enclaves' is not driven by perceived difficulty, but in part by the need to counter accusations. When one group (or their affiliates) is accused by a second group of reprehensible actions and social media sites (enclaves of exposure) are set up for each viewpoint, the accused may go to the site set up by the accusers to counter their claims. This can particularly be the case when the majority is the accused group and the accusers' perspective is consistent with that of a militant terrorist group. This may happen less frequently in the other direction because the accusers are taking the initiative.

The results show that inter-ethnic interaction occurs even in highly polarized contexts. However, the Facebook group that supported a more critical view of a dominant political regime (the previous Sri Lankan government in this case) drew more attention and engagement from different ethnic groups. In other words, the page that represents a more controversial political position, especially in the eyes of allegiants, attracted more inter-group

interaction. These results do not indicate that people choose not to talk to the opposing faction (as argued by Himelboim, 2014; Himelboim et al., 2013). Instead, the political position for which the artifact was created drives ethnic diversity with regard to political controversies. This may reflect the impact of political interest (Dubois & Blank, 2018) on cross-ideology exposure. Moreover the results agree with (to a certain extent) as well as contradict Lee's (2016) observation that polarized social contexts result in polarized social media platforms. In this study, the two pages that emerged in response to the political controversy indicated extremely polarized perspectives, supporting versus opposing war crime videos. This is consistent with Lee's argument. On the other hand, the results show that, at least in the context of highly controversial issues where offline contexts are highly divided, some social media pages, though created in support of one side of the debate, can support inter-ethnic exchange. These results also add a more nuanced perspective to Barberá et al.'s (2015) argument that some issues do not resemble an 'echo chamber', as it shows that political positions within the issue themselves can determine the extent of inter-group interaction. Therefore, some social media pages related to the same issue can display greater cross-ideology exposure while others can resemble an echo chamber. In this case, the Facebook page created in support of the allegiant perspective resembles a passive echo chamber while the dissident page serves more as a space that facilitates inter-ethnic exchange, including the involvement of allegiants. Arguably, this can result from the temptation among allegiants to counter the dissident perspective as well as the absence of a disliking affordance. The dominance of negative opinions in comments from the SLKF network (Table 5) supports this claim. Overall, the results indicate divergence of exposure related to the issue.

Conclusion

From a theoretical perspective, this study provides an alternative framing to understand cross-ideology exposure on social network sites. We suggest that divergence of exposure can be seen as a characteristic of social network sites. Arguably this can unify the echo chambers discourse, as it acknowledges the existence of echo chambers as well as mediated spaces where cross-cutting exposure is more prevalent. As the results indicate, more controversial positions displayed by page design can enable enclaves of exposure that foster inter-faction interaction, pushing people out of their politically like-minded friendship networks. This creates an opportunity for administrators to encourage democratic dialog. However, administrators require skills in facilitating interaction among extreme polarities as well as the ability to use new media affordances for such purposes. From a more general perspective, while social media affordances may not explain differences in inter-ethnic interaction on pages that use the same platform, the ways in which page creators use those affordances may describe such interaction to some extent. From the designers' perspective, such effects may be constrained by the affordances of the platform. For instance, the high number of comments on the dissident page might, to a certain extent, result from the absence of a button to express disagreement in the previous Facebook interface. Further work along this line can examine patterns emerging from newly introduced buttons (e.g., angry, sad).

Facebook provided a space for pro-Channel 4 groups to promote a documentary that highlighted alleged war crimes. The significant presence of other ethnicities in this network and their activity level (commenting: 33.1% of the commenters, and liking: 32.3% of all the likers) show that this page was able to garner support from, or at least get the attention of, other ethnicities (this group represents people posting from countries other than Sri Lanka, who may or may not belong to specific ethnicities studied). These results may reflect the offline context related to Sri Lanka's ethnic conflict. As mentioned before, the Tamil diaspora is quite active and pro-LTTE politics is stronger outside the geographical boundaries

of Sri Lanka, which may trigger more online engagement from social media users who do not represent the main groups related to the issue. Politics within the country is largely supportive of the military defeat of the LTTE and the pro-government (and anti-Channel 4) activists mainly represent the Sinhalese majority.

Arguably, the two online spaces studied here provide a space for Sinhalese, Tamils, and people representing other groups to interact with each other. This interaction, as mentioned earlier, includes comments that directly show anger and direct rejection of the documentary. However, the content analysis results show that both perspectives (anti- and pro-Channel 4) have equal presence in the network. This is a positive sign, as the co-existence of diverse perspectives may lead to discussion, as corroborated by the transactivity result. This also shows that dissident activism is subject to questioning on social media platforms. This is important, particularly in a context such as Sri Lanka's ethnic conflict. For instance, many allegiants commenting in the dissident network blamed Channel 4 for ignoring the crimes committed by the LTTE. Suicide attacks by the LTTE and other acts, such the use of child soldiers, are too serious to ignore when discussing Sri Lanka's ethnic conflict. Therefore, while social media allows the dissident narrative to be spread, the presence of actors in the opposing camp creates a richer communicative space where this narrative is challenged. Overall, this study shows that social media can enable cross-ideology exposure and interaction in contexts of political controversy where related ideologies are extremely polarized. However, the nature and the extent of such interaction is mediated by platform features and the ways in which users construct media artifacts situating their ideological positions using those features. Future research could examine aspects of such use, such as the behavior of social media page administrators (e.g., comment removal and moderation).

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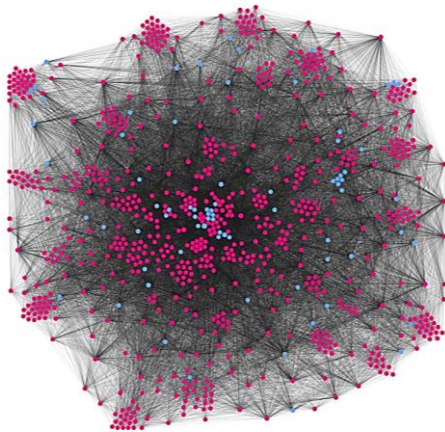
Figure 1: Networks Graphs based on Ethnic Composition and Activity Type

(a) Sri Lanka's Killing fields network: node colors represent activity type: 'likers'– red, and 'commenters'– blue
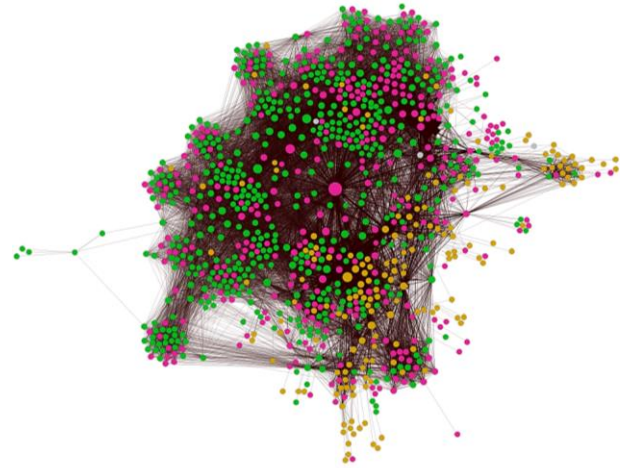
(b) Sri Lanka's Killing fields network: node colors represent ethnicity: Sinhala – orange, Tamil – red, and others – green

(c) Sri Lankans Hate Channel 4 network: node colors represent activity type: 'likers'– red, and 'commenters'– blue
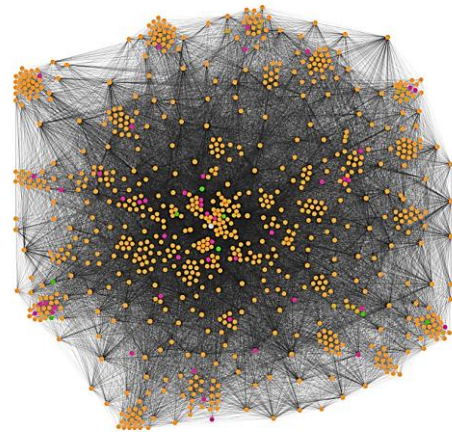
(d) Sri Lankans Hate Channel 4 network: node colors represent ethnicity: Sinhala – orange, Tamil– red, and others – green

Table 1: Network and Activity Type

| | | | Activity Type | | |
			Liker	Commenter	Total
Network	SLKF	N	833	200	1033
		% of Network	80.6%	19.4%	100.0%
		% of Activity Type	49.4%	92.2%	54.3%
	SLHC4	N	852	17	869
		% of Network	98.0%	2.0%	100.0%
		% of Activity Type	50.6%	7.8%	45.7%
Total		N	1685	217	1902
		% of Network	88.6%	11.4%	100.0%
		% of Activity Type	100.0%	100.0%	100.0%

Table 2: Network and Ethnicity

| | | | Ethnicity | | | |
			Tamil	Sinhala	Other	Total
Network	SLKF	N	518	176	339	1033
		% of Network	50.1%	17.0%	32.8%	100.0%
		% of Ethnicity	98.5%	18.1%	84.3%	54.3%
	SLHC4	N	8	798	63	869
		% of Network	0.9%	91.8%	7.2%	100.0%
		% of Ethnicity	1.5%	81.9%	15.7%	45.7%
Total		N	526	974	402	1902
		% of Network	27.7%	51.2%	21.1%	100.0%
		% of Ethnicity	100.0%	100.0%	100.0%	100.0%

Table 3: Differences in Activity Levels and Ethnic Composition (χ^2 Test Results)

Null Hypothesis	χ^2	Result
The distribution of activity type is the same across networks	141.45 ($p<.05$)	Rejected
Distribution of ethnicity is the same across networks	1075.04 ($p<.05$)	Rejected

Table 4: Network Statistics

Network	Sri Lanka's Killing Fields	Sri Lankans Hate Channel 4
Vertices	1032	869
Edges	25627	37567
Transitivity (Global)	0.426	0.384
Mean Distance	2.787	2.243
Modularity	0.492 (9 partitions)	0.206 (8 partitions)
Sinhalese	17%	91.8%
Tamil	50.1%	0.9%
Other	32.8%	7.2%
Ethnic Assortativity	0.0792	0.001

Table 5: Classification of Comments

Comment Polarity	Network			
	Sri Lanka's Killing Fields		Sri Lankans Hate Channel 4	
	N	*%*	*N*	*%*
Pro-government	10	3.3	4	6.9
Anti-government	75	24.75	1	1.72
Pro-LTTE	2	0.66	0	0
Anti-LTTE	39	12.87	14	24.14
Pro-Channel 4	61	20.13	0	0
Anti-Channel 4	49	16.17	6	10.34
Pro-Sinhala	0	0	2	3.45
Anti-Sinhala	13	4.29	0	0
Pro-Tamil	3	0.99	0	0
Anti-Tamil	3	0.99	0	0
Other	57	18.81	33	56.7
Moderate	18	5.94	0	0
Transactive	63	20.97	0	0
Total number of comments	303		58	

Note: Some comments match multiple categories. Percentages column shows the occurrence of each polarity as a percentage of the total number of comments in each network.