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Organizational balancing of website interactivity and control: An examination of ideological groups and the duality of goals

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ABSTRACT

Researchers have overwhelmingly concluded that substantial benefits can be achieved by organizations increasing the level of interactivity on their websites. However, interactivity, with its emphasis on facilitating visitors' unconstrained exchanges and control over website content, may undermine the communicative purpose of an organization's website. Taking a perspective based on the duality of goals, we argue that interactivity may not be desirable for some supporting organizations. We tested these ideas by examining the features of interactivity on 105 websites that are supported by national and international groups. Some of the websites are supported by ideological groups that have a strong interest in controlling their messages and clearly articulating their ideology to the public. A subset of the ideological groups also sanctions acts of violence in support of their ideology. As predicted, we found substantial differences in the level of interactivity between the violent groups and other ideological and non-ideological groups, with the greatest disparity occurring in social media. We conclude that for violent groups the need for control over website content and representation outweighs the benefits of interactivity. Surprisingly, we found little difference between nonviolent ideological and non-ideological groups. Implications for theory and practice are discussed.

1. Introduction

For more than a decade, website interactivity has garnered significant attention and research interest (see Rafaeli & Ariel, 2007 for a review). The overwhelming conclusion from this inquiry suggests organizations may achieve substantial benefits by increasing the level of interactivity on their websites. Although the definitions of interactivity vary, most researchers agree that website interactivity includes the degree to which the website facilitates exchanges of information (i.e., with the website) or interpersonal messages (i.e., with other visitors), permits a visitor to control the functionality or information available on the website, and is responsive to the visitor's requests (Rafaeli & Ariel, 2007). These dimensions of interactivity have been labeled respectively two-way communication, active control, and media synchronicity (Liu, 2003). Interactivity has been linked to greater acceptance of the information presented on the website (Campbell & Wright, 2008; Tam & Ho, 2006), and increased intentions to revisit the website (Palmer, 2002). When individuals exchange messages through interactive websites, they experience higher satisfaction with communication processes and outcomes (Lowry, Romano, Jenkins, & Guthrie, 2009). Organizations increasingly attempt to engage visitors through their websites by supporting two-way exchanges (i.e., exchanges between website visitors and the supporting organization or among website visitors themselves), linking to social media, and providing a customized visit (i.e., granting visitors control over the content they see).

However, interactivity, with its emphasis on facilitating visitors' unconstrained exchanges and control over website content, may undermine the communicative purpose of an organization's website. For example, if a group has a controversial message, its website could be inundated with comments expressing disagreement that actually detract from the group's main message. Under these conditions, interactivity may be of less concern than preserving an intact, coherent message in support of the

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organization's goals. Our investigation is guided by the following research question: How do organizations balance the benefits of interactivity with the need to communicate a consistent, coherent message in support of the organizations' goals? In answering this question, we focus on the potential conflict between interactivity and tight control of the website's message.

1.1. Website interactivity

Interactivity influences interpretation and processing of messages on a website in several ways (Liu & Shrum, 2009). First, interactivity determines, in part, what information is available for consumption on a website (i.e., visitor-generated content such as comments, discussion board threads). Second, interactivity influences how that information is presented and processed by website visitors (i.e., customization and control over website content). Third, interactivity can serve as a marker of credibility that can influence the organization's message communicated through a website. For example, in a study of political websites, interactivity improved visitors' attitudes toward a candidate despite them being previously apathetic about the candidate (Sundar, Kalyanaraman, & Brown, 2003). Therefore, high levels of interactivity are thought to make more information available, facilitate visitors' information processing, and elevate the credibility of the website's message.

Interactivity has been associated with greater acquisition and acceptance of the information presented on the website (Sharda et al., 2004; Tam & Ho, 2006), increased intentions to revisit the website (Palmer, 2002), greater ability to make decisions using website information (Jiang & Benbasat, 2004), and higher satisfaction with communication processes and outcomes (Lowry et al., 2009). In a multi-disciplinary literature review, Rafaeli and Ariel (2007) demonstrated benefits such as higher perceived satisfaction, trust, effectiveness, efficiency, value, and liking for websites and advertisements that are delivered interactively. They stated:

> The preponderance of field empirical evidence regarding consequences of interactivity leans toward positive outcomes. ... It should be noted that there have been some indications that interactivity may have other than positive outcomes. However, only very few negative or problematic outcomes of interactivity have been given empirical documentation. (p. 80)

Clearly, these benefits of interactivity would likely seem highly desirable to an organization sponsoring a website.

With substantial evidence touting benefits of interactivity, some researchers have begun exploring cases where interactivity may not be beneficial. Initial work along this line has suggested that interactivity is most effective when it is employed on entertainment websites rather than on websites whose primary purpose is to supply information (Liu & Shrum, 2002). Others have found that time pressure makes non-interactive websites more preferable (Amichai-Hamburger, Fine, & Goldstein, 2004). Additionally, researchers have noted the elevated cognitive cost when dealing with additional functionality in websites (Jones, Ravid, & Rafaeli, 2004; Liu & Shrum, 2009). We add to this stream of research by arguing that the desire for accurate representation of website messages and tight control over website content may also compete with the benefits of interactivity. To examine this potential conflict we turned to websites and supporting organizations that value control over messages they send: ideological groups.

1.2. Interactivity and ideological groups

Ideological groups are defined as organizations of individuals with similar and strongly held beliefs that form a mental model for how the individuals understand the world around them (Mumford et al., 2008). Examples of ideological groups are widespread, such as groups supporting political views, religious beliefs, and social causes. In addition to their abundance, they also wield considerable political power, control substantial financial resources, and attempt to influence the attitudes of entire societies. Ideological groups fill a number of needs for their members: (1) the groups help members manage uncertainty and perceived external threats; (2) they provide a sense of identity and meaning for their members; (3) the groups help foster a positive self-concept through the enhancement of self-esteem; and (4) they provide a structure through which members can make sense of their environment (Allen et al., 2008).

As the internet has taken its place among other more traditional media (e.g., television, radio, newspapers), researchers have noted the internet's lack of regulation and oversight, especially in comparison to traditional media (Heath & O'Hair, 2009). Anyone with access to the internet can gather information from a multitude of sources, create content, and deliver the content to a target group. Given the lack of oversight, relative ease of dissemination, and the affordances not available in traditional media, the internet offers fertile ground for the proliferation of ideological groups and their messages (Matusitz & O'Hair, 2008). In fact, the internet is quickly stepping into serve as a central medium for ideological groups to interact, communicate, and build relationships with potential members (Stanton, 2002). In particular, many of these groups have chosen to set up websites because they can increase the reach of their ideological message beyond what is available to them through more traditional media sources. Additionally, these groups are able to attract individuals who would otherwise be unable or unwilling to participate in person, but who still express an interest in the group's ideology (Lee & Leets, 2002).

While there is substantial variation in ideological groups' causes, there is also variation in ways that ideological groups advocate their principles or support their causes, and these methods of advocacy and support can generate disagreement and controversy. Among the most controversial groups are those groups that promote, sanction, or publicize acts of violence in support of their cause. For example, the American Society for the Prevention of Cruelty to Animals' website publicizes its acts of philanthropy in support of peaceful animal advocacy, while the Animal Liberation Front's website describes why and how it commits acts of violence (e.g., laboratory liberations, threats against animal researchers) to support its cause. In this research, we examine websites supported by both violent and nonviolent ideological groups because they likely have different goals with regard to the level of control they wish to maintain over their messages.

Despite the prevalence of ideological groups, research on ideological group websites is scant, and research focusing on the interactivity of ideological group websites is even rarer. Although not specifically referring to ideological websites, Chua (2009) noted that virtual communities regulate messages among members and suggested the reason for the regulation was preservation of group identity. However, how such regulation is manifest in website interactivity remains unknown. In a review of how online ideological groups promote their ideals and causes, Byrne et al. (2013) used content analysis to assess various facets of information variety, media types within the website, and website functionality. The findings showed nonviolent ideological websites, compared to violent ones, had a wider variety of information, including viewpoints that were non-committal or even opposed to the ideals espoused by the group. Information on these sites was rated as more educational than that on violent websites. Violent ideological websites had less variety of information, incorporated media that was more emotionally evocative, and had a greater volume of pro-group information than either the nonviolent or non-ideological sites. Website functionality was also rated as higher for the nonviolent ideological sites.

Finally, our prior, exploratory work (Dunbar et al., in press) investigated perceptions of interactivity across violent ideological groups, nonviolent ideological, and non-ideological groups. The findings suggested differences in perceived interactivity across violent and nonviolent group websites. However, the source of these differences was not clearly observable since the investigation relied on perceptual scales. Past research has demonstrated that perceptual coding may not align with objective evaluation of interactive features (Voorveld, Neijens, & Smit, 2011). Therefore, in this work, we report on a detailed evaluation of interactive features on violent ideological, nonviolent ideological, and non-ideological group websites to clearly identify the source of perceptual differences we previously observed.

2. Theory and hypotheses

To understand the reasons why the desire for control in websites may conflict with the benefits of interactivity, we draw on work exploring websites' duality of goals (e.g., Belanger et al., 2006). Traditionally, investments in technology have been primarily assessed from the perspective of the potential users and assumed to be successful when achieving the greatest amount of use from the largest number of potential users (e.g., Chau, 1996; Delone, 2003). However, the interests and desires of the users may occupy a subordinate role to interests of the organization (Brown, Massey, Montoya-Weiss, & Burkman, 2002). Central to the duality of goals perspective is that various stakeholders surrounding an investment in technology may have differing views on what constitutes a successful investment (Seddon, 1997; Seddon, Staples, Patnayakuni, & Bowtell, 1999). In other words, a visitor's perception of a successful website may differ dramatically from a sponsoring organization's view of a successful website. In applying this perspective, the notion of *success* is critical to consider (see Nelson, Todd, & Wixom, 2005), but potentially more important is understanding success according to *whom*.

Under Belanger et al.'s (2006) taxonomy of website goals, the main goal of ideological websites is to supply information that will influence a visitor's perception in a way that is favorably biased towards the groups' views. Ideological websites may have many functions such as to supply information to or facilitate exchanges between visitors. However, these functions are generally in support of a certain worldview or perspective (Allen et al., 2008). When applying the duality of goals perspective, it is important to note that influencing visitors' opinions is the goal of the website's sponsoring organization, a goal that may not necessarily be shared by visitors. For website visitors, the motivation for visiting a website typically involves the fulfillment of various interactive and informational needs and it depends on the availability and the instrumentality of the website to meet these needs (Rubin, 1993; Rubin, 1994). When the goals of the organization sponsoring the website and the goals of visitors diverge, the duality of goals perspective suggests that tension can emerge. Organizations must balance diverging goals because on one hand, the sponsoring organization's message must remain intact. But on the other hand, a website would offer little organizational value if few people visited it and found it useful. Prior research (e.g., Rafaeli & Ariel, 2007) has clearly shown that greater website interactivity can assist website visitors with fulfilling interactive and informational needs. But with greater interactivity comes the possibility that the central message of the website could be altered or rendered less effective with respect to the organization's goals.

We focus on two dimensions of interactivity that have the potential to undermine the message of ideological websites. The first is two-way communication, which facilitates exchanges among group members or between visitors and group members. Common two-way communication methods are commenting on webpages, being able to contact group members (e.g., through email or chat), and being able to leave feedback (e.g., through web forms). Two-way communication can undermine a website's central message if it facilitates or displays disagreement with the group. For example, through email, posts, or comments, visitors who do not agree with an ideology could attempt to engage the group in argument and publicize the dispute. In this case, the group has lost control of the message being portrayed on its site and the goals of the group are not being met.

Of particular interest under two-way communication is social media. Social media is growing in popularity, and these media represent an attractive platform for online groups. As with other forms of two-way communication, social media facilitates exchanges between visitors and group members, but on a scale that was previously unthinkable. Little is known about how ideological groups utilize social media in communicating ideology. However, ideological groups can impose even less control over their message in social media (which is typically a third party) than they can over messages exchanged within their own websites. Similar to how ideological groups may treat other forms of two-way communication, we expect ideological groups to curtail linking to social media in order to preserve control over their message.

The second dimension of interactivity that may undermine the message of ideological websites is active control, which provides website visitors control over the content they view. Common methods of active control include embedded functionality for viewing content (e.g., ability to disable or remove features or content), navigation controls (e.g., menus, internal and external links), and connecting to third-party applications (e.g., RSS feeds). These abilities have the potential to undermine the goals of ideological groups because they enable visitors to view website content in a customized way that can alter what information and messages are presented for each individual visitor. For example, if a visitor can disable or remove content, the message the visitor receives may not be the message the group intended to send. In this case, the group's communication goals may not be met because the group lost some control of its message.

Clearly, most, if not all organizations wish to control the messages their websites convey. However, ideological groups may be especially protective of the messages their websites send. One of the defining features of ideological groups is that they provide a structure through which individuals can make sense of the world around them (Murray & Cowden, 2002). Therefore, we predict that ideological groups will resolve the tension produced by the duality of goals by favoring to a greater degree the goals of the sponsoring organization. Ideological groups reward conformity in social and personal forms and provide members a sense of meaning through their representation of the truth (Allen et al., 2008). Any attack or distortion of an ideological group's message is an attack on group members' deep-seeded beliefs and is likely met with efforts to minimize, counter, or suppress. Prior research (e.g., Chua, 2009) has provided evidence of duality of goals in virtual communities and we anticipate that this duality will be manifest in website interactivity. Therefore, we hypothesize the following:

H1a. Websites from ideological groups will support less two-way communication than non-ideological groups.

H2a. Websites from ideological groups will link to fewer social media services than non-ideological groups.

H3a. Websites from ideological groups will offer less active control to users than websites from non-ideological groups.

We predict that as the desire for control grows, the level of interactivity will decrease. Among ideological groups, violent groups are likely to desire the greatest amount of control. They encourage group members to surrender their own identities for that of the groups, are wary of threats from outside sources, and emphasize obedience and loyalty (Burdman, 2003; Post, Ruby, & Shaw, 2002). Violent groups also harbor a very strong sense of moral superiority (Moghaddam, 2005). Therefore, we predict that the desire for control over interactivity will be even more manifest in violent ideological groups (as compared to nonviolent groups).

H1b. Websites from violent ideological groups will support less two-way communication than nonviolent ideological groups or non-ideological groups.

H2b. Websites from violent ideological groups will link fewer social media services than nonviolent ideological groups or non-ideological groups.

H3b. Websites from violent ideological groups will offer less active control to users than websites from nonviolent ideological or non-ideological groups.

3. Method

To test our hypotheses and determine if the need for control outweighs the benefits of interactivity for ideological groups, we sampled websites from three separate categories: violent ideological, nonviolent ideological, and non-ideological. We then coded the website features of the public pages of each website.

3.1. Website selection

Selection and categorization of ideological and non-ideological categories required several steps. We first consulted public sources (e.g., Southern Poverty Law Center) and the limited past research on ideological group websites (e.g., Angie et al., 2011; Byrne et al., 2013; McNamee, Peterson, & Peña, 2010) for candidate websites to use in this investigation. To expand this list, we conducted keyword searches using popular search engines for ideological topics and candidate ideological group websites. A focus group of experts on ideological websites met periodically to review the candidate group websites and to provide additional recommendations. Consistent with past work (e.g., Byrne et al., 2013), we limited our search to websites for groups that met face-to-face, had local chapters, facilitated online communication between members, or included some function for outreach or recruiting new members. These constraints on our search ensured existence and vibrancy of the group. Finally, we selected groups that operated at a national level in the United States or at an international level to ensure that the group had sufficient visibility to generate traffic to their website.

Next, we separated ideological from non-ideological groups. Consistent with past research (e.g., Byrne et al., 2013), we defined ideological groups as groups (1) that express a rigid mental model (2) that is based on negative past events; (3) tie interpretation of current events tightly to the rigid mental model; (4) focus on a few transcendent goals (5) that are largely centered on a return to a past idealized state; and (6) reject other beliefs that are not congruent with the group's mental model. All candidate groups were coded by two or three coders who rated each candidate group on these six characteristics. The overall level of agreement among coders was satisfactory at .76 using r * wg.[1] An overall mean for each group was calculated, then means were transformed into Z-scores. Groups with a Z-score greater than 1.00 were classified as ideological, and groups with a Z-score less than −1.00 were classified as non-ideological.

We began with a list of 119 websites, but there were several groups whose Z-scores did not clearly fall in single category; therefore these groups were excluded (*Oxfam International*, *Amnesty International*, *Mothers Against Drunk Driving* (*MADD*), *Hare Krishna Society*, *Amitabha Buddhist Society*, *Students for a Democratic Society*, *Project Reason*, *Le Leche League*, *Free Believers Network*, *Muslim Aid* (*UK*), *U.S. Sportsmans' Alliance*, and *American Society for the Prevention of Cruelty to Animals* (*ASPCA*)). During coding, it was also noted that two groups (*National Audubon Society* and *Save our Wild Salmon*) showed ideological qualities in some areas of the website, but were non-ideological among other criteria. Therefore, these two groups were also excluded from consideration. Then, to ensure our group categorization was valid, we invited two experts to independently review our categorization.

Finally, we separated violent from nonviolent ideological groups in a manner consistent with past research (e.g., Byrne et al., 2013). Groups were characterized as violent if they condoned or celebrated violence on their website, if the group was known to condone violence, if group members or the website had been linked to two or more acts of violence, or if the group had been classified as violent by a reputable third party (e.g., *Southern Poverty Law Center*, *PEW*, *Gallup*, *RAND*, the *Terrorism Research Center*, the *Anti-Defamation League*, the *Terrorism Project*, or the *Memorial Institute for Prevention of Terrorism*). Using these steps, 105 groups were gathered for coding including 32 violent ideological, 36 nonviolent ideological, and 37 non-ideological groups. The list of websites and their categorization is shown in Table 1.

3.2. Evaluation of interactivity

Three independent coders evaluated the interactivity of a website by accessing public webpages. Webpages that required registration or logging in to access were not coded.[2] Coders evaluated the top level webpage (i.e., home page) and then searched available public webpages for two-way communication, social media, and active control features. Coders were instructed to first seek the features in logical places on the website. If they did not find them, they were then to traverse two levels of each website (with the homepage being level 0) looking for the features. To expand on our past work, which relied on a perceptual perspective of interactivity (Dunbar et al., in press), we adopted a feature-based approach to evaluate interactivity. We adapted an existing interactivity coding scheme (Voorveld et al., 2011) and expanded it (e.g., by considering social media features) to make it suitable for coding ideological and non-ideological websites. Example social media features include embedded functionality from Twitter (e.g., contacting group members) or Facebook (e.g., following the group or liking webpages). Each of the two-way communication, social media, and active control features was coded as present or not present (1 or 0) on the website by each coder. To address our hypotheses, we then calculated the percentage of non-ideological, nonviolent ideological, and violent ideological group websites that contained each interactivity feature. Although social media features are considered under two-way communication, we separated social media features out so we could isolate any differences between groups' websites. The coded features and their definitions are listed in Table 2.

[1] Agreement for each characteristic of ideological groups are as follows: Rigid mental model: .81; Negative past events: .77; Interpretation of events: .77; Transcendent goals/purposes: .75; Return to former condition: .73; Mutual exclusivity of beliefs: .75.

[2] Publically available webpages represented the online face of the organization and likely attracted the most traffic. In addition, in keeping with human protection guidelines and ethical research standards, we did not seek to falsely "join" any groups to gain access to their online resources.

Table 1
Website classification results.

No.	Non-ideological	Nonviolent ideological	Violent ideological
1	Amateur Entomologists' Society	American Baptist Church	Aggressive Christianity Missionary Training Corp (ACMTC)
2	American Association of Retired Persons (AARP)	American Cause	Alpha 66
3	American Astronomical Society	American Civil Liberties Union (ACLU)	Americans for Truth About Homosexuality
4	American Botanical Council	Americans United	Anarchist Federation
5	American Cancer Society	Center for Bioethical Reform (CBR)	Animal Liberation Front (ALF)
6	American Diabetes Association	Christian Exodus	Army of God (AOG)
7	American Fisheries Society	Coalition to Stop Gun Violence	Aryan Nations
8	American Heart Association	Coffee Party	Creativity Movement
9	American Meteorological Society	Council of Conservative Citizens	Earth Liberation Front
10	American Red Cross	Earth First!	English Defence League (EDL)
11	American Sewing Guild	Federation of American Immigration Reform (FAIR)	Ezzdeden Al-Qassam Brigade (Hamas)
12	American Trucking Associations	Freedom from Religion Foundation	Heterosexuals Organized for a Moral Environment (HOME)
13	Amnesty International	Friends of the Earth	Imperial Klans of America
14	Asian American Arts Alliance	Hadassah	Institute for Historical Review
15	Association of Woodworking and Furnishings Suppliers	Independent American Party	Jewish Defense League (JDL)
16	Atomic Age Alliance	Islami City	Kingdom Identity Ministries
17	Big Brothers/Big Sisters of America	Islamic Society of North America	Ku Klux Klan (KKK)
18	British Beatles' Fan Club	Jewish Voice for Peace (JVP)	League of the South
19	Children and Adults with Attention Deficit/ Hyperactivity Disorder (CHADD)	John Birch Society	National Alliance
20	Doctors without Borders	LDS (Mormon) Church	National Association for the Advancement of White People (NAAWP)
21	Habitat for Humanity	Libertarian Party	National Democratic Front
22	Jenny Craig	National Association for the Advancement of Colored People (NAACP)	National Socialist Movement
23	Lions Club	National Coalition for Men	Negotiation is Over (NO)
24	Mensa	National Organization for Women (NOW)	Operation Rescue
25	Mustang Club	National Rifle Association (NRA)	Power of Prophecy
26	National Association for Amateur Radio	No H8 Campaign	People for the Ethical Treatment of Animals (PETA)
27	National Association for the Self-Employed	One Campaign	Prairie Fire Organizing Committee
28	National Association of Miniature Enthusiasts	Pro Life Action League	Sovereign Citizens
29	National Association of Rocketry	Sierra Club	The Barnes Review (TBR)
30	National Street Rod Association	Socialist Party USA	United for a Sovereign America (USA)
31	Photographic Society of America	Tea Party Nation	Volksfront
32	Shriners International	The Family International	Westboro Baptist Church
33	Society of Professional Journalists	Unitarian Universalist Association of Congregations	
34	Special Olympics	United Methodist Church	
35	Teamsters	United Pentecostal Church International	
36	US Tennis Association	United States Conference of Catholic Bishops	
37	Yellow Ribbon Club		

To prepare for coding, the coders attended several training meetings in which the features were explained and trial coding on sample websites was performed. After coding several practice websites and achieving acceptable agreement, the coders started coding the sample websites. All three coders completed coding of a single website within one week of each other to reduce the chance of seeing different website features when coding. The coders also held weekly meetings to review the level of agreement between them and address any arising problems. The coding took approximately four months. Agreement was determined by the absolute agreement between the coders. For two-way communication, the level of agreement between coders averaged 89%. The level of agreement between coders for linkages to social media averaged 76% and the level of agreement between coders for active control averaged 89%. The few inconsistencies between coders were resolved by coder majority. If two coders reported a feature was present on a website, the feature was recorded as present. If two coders reported that a feature was not present, the feature was recorded as not present. After coding, mean percentages of two-way communication, social media, and active control features were calculated across each category of group.

4. Results

The results of the coding are shown in Tables 3–5 and significant differences between group categories (as per Kruskal & Wallis, 1952) are noted for each feature.[3] Correlation tables for the two-way communication, social media, and active control features are presented in Appendix A. The findings demonstrate a clear pattern among the categories of groups. For the two-way communication features, the violent ideological category demonstrated the lowest means of the three categories. In particular, violent ideological groups were much less likely to have a blog or offer a way to synchronously communicate with group (e.g., by phone). However, the violent ideological groups did offer ways to communicate in controlled ways with the group through asynchronous methods (e.g., contact website administrator through physical mail, email or message board) at a similar rate to the other two categories of groups. The difference between violent ideological groups and the

[3] Since the presence of a feature on a website is dichotomous, we used non-parametric Kruskal–Wallis tests to examine differences between groups for each feature. A Kruskal–Wallis test was performed for each feature with group category as the independent variable.

Table 2
Features of two-way communication, social media, and active control.

Category and features	Definition
Two-way communication	
Contact website administrator (text chat)	Whether the website offers the capability to chat in real-time with the group leadership/website administrator
Contact website administrator (phone)	Whether a phone number is provided on the website to contact the group leadership/website administrator
Contact website administrator (other synchronous method)	Whether some other type of synchronous communication method (besides chat or phone) is offered to communicate with the group leadership/website administrator
Contact other group members (text chat)	Whether the website offers the ability to chat in real-time with members of the group
Contact other group members (phone)	Whether the website gives phone numbers of group members to enable website visitors to contact group members
Contact other group members (other synchronous method)	Whether some other type of synchronous communication method (besides chat or phone) is offered to communicate with members of the organization
Ability to purchase goods from website	Whether the website offers the ability to purchase products
Contact website administrator (email)	Whether an email address is provided for the group leadership/website administrator
Contact website administrator (message board)	Whether the website has a message board which enables the user to contact the group leadership/website administrator
Contact website administrator (web forms)	Whether the website provides a form whereby the user can contact the group leadership/website administrator
Contact website administrator (fax)	Whether a fax number is provided to contact the group leadership/website administrator
Contact website administrator (physical mailing address)	Whether a mailing address is provided for the group leadership/website administrator
Contact website administrator (other asynchronous method)	Whether asynchronous communication methods not already listed are provided for contacting the group leadership/website administrator
Contact other group members (email)	Whether email addresses are provided for group members
Contact other group members (message board)	Whether the website has a message board which enables the user to contact group members
Contact other group members (messages through blogs)	Whether the website facilitates communication with group members by allowing the posting of comments on blogs
Contact other group members (web forms)	Whether forms are provided on the website to allow users to contact other group members (not including group leadership/website administrator)
Contact other group members (other asynchronous method)	Whether asynchronous communication methods not already listed are provided for contacting the group members (not including group leadership/website administrator)
Recommendations (email)	Whether the site includes a feature to allow the user to recommend the site to others via email
Recommendations (other method)	Whether the site includes ways to recommend the site to others, not including email or social media
Podcasts	Whether the website includes podcasts
Blogs	Whether the website includes blogs
Feedback collection	Whether the website includes surveys that allow website visitors to provide comments on the content and design of the site
E-cards	Whether the website provides users the ability to send e-cards
Product suggestions from group members	Whether the website includes product suggestions from group members
Social media	
Contact website administrator (social media)	Whether the website permitted contact with website administrators via Twitter
Contact other group members (social media)	Whether the website permitted contact with other group members via Twitter
Recommendations (social media)	Whether the website provides the ability to recommend the group using social media (e.g., like button)
Links to third party (social media)	Whether the website provides the ability to follow the group on social media
Active control	
Internal links	Whether there are unique links on the homepage that brought the user to another page of the website
Hot links	Whether the site includes links to the homepage
External links	Whether there are unique links on the homepage that take the user to a different website
Embedded video controls	Whether the website offers video, as well as whether the website offers the ability to play/pause the video on the site
Embedded audio controls	Whether the website offers audio, as well as whether the website offers the ability to play/pause the audio on the site
Search on homepage	Whether a keyword search feature is provided on the homepage
Search on content pages	Whether a keyword search feature is provided on the website, not including the homepage
Software downloads	Whether the website offers the ability to download software
Site map	Whether a sitemap is provided
Newsletter signup	Whether the website offers the option to sign up for a newsletter
Email alerts signup	Whether the website offers the ability to sign up for email alerts
RSS feeds	Whether the website offers the ability to subscribe to an RSS feed
Drop down menus on homepage	Whether there are dropdown menus on the homepage
Drop down menus on content pages	Whether there are dropdown menus on the website, not including the homepage
Language choice	Whether the user can choose the language in which to view the site
Registration required (main site)	Whether the user is required to register before viewing the site
Registration required (view message boards)	Whether the user is required to register before viewing message boards
Registration required (post to message boards)	Whether the user is required to register before posting to message boards
Registration required (view blogs)	Whether the user is required to register before viewing blogs
Registration required (post to blogs)	Whether the user is required to register before posting a blog or a comment/response on a blog
Connection to mobile phone	Whether the website includes a mobile format for use on a phone
Text-only website option	Whether the website provides a text-only version of the content
Evidence of cookies (e.g., Remember me)	Whether the website provides a "remember me" option
Wish lists	Whether the website provides the ability to create a wish list
Turn Adobe Flash on/off	Whether user is provided with the choice to see the site with or without Flash
Age requirement	Whether there is an age requirement to view the site
Change color scheme of website	Whether the color scheme of the website can be changed
Make website homepage	Whether the website provides the option to make the website the user's homepage

Table 3
Percentages for website two-way communication features.

Features	Non-ideological	Nonviolent ideological	Violent ideological
Contact website administrator (text chat)	10.8	5.6	0.0
Contact website administrator (phone)***	86.5	77.8	46.9
Contact website Administrator (other synchronous method)	0.0	0.0	0.0
Contact other group members (text chat)	5.4	5.6	0.0
Contact other group Members (phone)	0.0	0.0	0.0
Contact other group members (other synchronous method)	0.0	0.0	0.0
Ability to purchase goods from website	54.1	66.7	50.0
Contact website administrator (email)	89.2	80.6	87.5
Contact website administrator (message board)	27.0	11.1	25.0
Contact website administrator (web forms)	54.1	61.1	46.9
Contact website administrator (fax)*	45.9	41.7	18.8
Contact website administrator (physical mailing address)	89.2	75.0	71.9
Contact website administrator (other asynchronous method)	8.1	5.6	3.1
Contact other group members (email)*	10.8	0.0	0.0
Contact other group members (message board)	27.0	13.9	28.1
Contact other group members (messages through blogs)	21.6	41.7	21.9
Contact other group members (web forms)	5.4	2.8	0.0
Contact other group members (other asynchronous method)**	13.5	0.0	0.0
Recommendations (email)	43.2	52.8	28.1
Recommendations (other method)	5.4	2.8	0.0
Podcasts	18.9	16.7	6.3
Blogs**	70.3	66.7	31.3
Feedback collection	8.1	11.1	6.3
E-cards*	18.9	5.6	3.1
Product suggestions from group members	5.4	5.6	6.3

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 4
Percentages for website social media features.

Features	Non-ideological	Nonviolent ideological	Violent ideological
Contact website administrator (social media)*	43.2	41.7	12.5
Contact other group members (social media)*	29.7	33.3	9.4
Recommendations (social media)**	62.2	63.9	25.0
Links to third party (social media)***	81.1	83.3	31.3

* $p < .05$.
** $p < .01$.
*** $p < .001$.

other categories was even more striking in the social media features, where the mean percentages for non-ideological and nonviolent ideological groups were more than double the mean percentages of the violent ideological groups. The pattern also held across the features for active control. However, the three categories of groups put in place similar registration requirements for entering and posting content to the websites.

We next performed statistical analysis to further examine the coding results. We calculated the mean percentages for each dimension of interactivity and compared the means across group types (see Table 6). As two-way communication, linkages to social media, and active control are all components of interactivity and are based on counts of underlying features, we adopted a conservative analysis approach by using a series of Kruskal–Wallis tests which relax assumptions of parametric statistical tests. The Kruskal–Wallis (1952) test relies on a ranking of the dependent variables and uses a χ^2 distribution.

Consistent with H1, an omnibus test comparing the percentage ranks of the three types of groups demonstrated significant differences in two-way communication, $\chi^2(2, N = 105) = 14.07$, $p = .001$. Group category accounted for .135 of the variability in two-way communication. To understand these differences, we conducted additional Kruskal–Wallis tests to compare each type of group with the others. A Bonferroni correction was applied to compensate for multiple tests. Two-way communication from violent ideological groups was significantly different from non-ideological groups, $\chi^2(1, N = 69) = 11.95$, $p = .001$, and from nonviolent ideological groups, $\chi^2(1, N = 68) = 8.54$, $p = .003$. However, no difference was found in two-way communication between non-ideological groups and nonviolent ideological groups, $\chi^2(1, N = 73) = 1.00$, $p = .32$. These results provide mixed support for H1a and full support for H1b.

Consistent with H2, an omnibus test showed a significant difference among the groups for social media, $\chi^2(2, N = 105) = 21.71$, $p < .001$. Group category accounted for .209 of the variability in links to social media. Post-hoc Kruskal–Wallis tests with a Bonferroni correction revealed significant differences in links to social media between violent ideological groups and non-ideological groups, $\chi^2(1, N = 69) = 16.10$, $p < .001$, and nonviolent ideological groups, $\chi^2(1, N = 68) = 16.66$, $p < .001$. However, no difference was noted in links to social media between non-ideological and nonviolent ideological groups, $\chi^2(1, N = 73) = .55$, $p = .46$. These results suggest mixed support for H2a and full support for H2b.

Finally, the omnibus test for H3 showed significant differences among the groups for active control, $\chi^2(2, N = 105) = 21.67$, $p < .001$. Group category accounted for .208 of the variability in active control. Post-hoc Kruskal–Wallis tests with a Bonferroni correction revealed significant differences in active control

Table 5
Percentages for website active control features.

Features	Non-ideological	Nonviolent ideological	Violent ideological
Internal links	97.3	100.0	96.9
Hot links	97.3	100.0	100.0
External links*	100.0	97.2	84.4
Embedded video controls	40.5	41.7	40.6
Embedded audio controls	24.3	11.1	18.8
Search on homepage*	78.4	80.6	53.1
Search on content pages*	81.1	77.8	50.0
Software downloads	5.4	5.6	0.0
Site map***	56.8	36.1	9.4
Newsletter signup***	70.3	69.4	25.0
Email alerts signup*	64.9	72.2	40.6
RSS feeds*	59.5	61.1	31.3
Drop down menus on homepage**	62.2	66.7	31.3
Drop down menus on content pages**	56.8	58.3	21.9
Language choice	32.4	25.0	18.8
Registration required (main site)	10.8	11.1	12.5
Registration required (view message boards)	45.5	62.5	30.0
Registration required (post to message boards)	72.7	87.5	80.0
Registration required (view blogs)	10.7	12.0	8.3
Registration required (post to blogs)	59.3	58.3	54.5
Connection to mobile phone	5.4	5.6	3.1
Text-only website option	0.0	0.0	0.0
Evidence of cookies (e.g., remember me)*	10.8	0.0	0.0
Wish lists	0.0	0.0	0.0
Turn adobe flash on/off	0.0	2.8	0.0
Age requirement	2.7	2.8	6.3
Change color scheme of website	0.0	0.0	0.0
Make website homepage	2.7	5.6	0.0

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 6
Means, medians, and inter-quartile ranges (ICR) for website interactivity features.

Features	Non-ideological		Nonviolent ideological		Violent ideological	
	Mean	Median (ICR)	Mean	Median (ICR)	Mean	Median (ICR)
Total two-way communication	30.5	32.1 (16)	28.2	25.0 (17)	18.9	14.3 (17)
Total social media	54.1	50.0 (63)	55.6	50.0 (75)	19.5	0.0 (25)
Total active control	37.6	37.9 (19)	37.0	37.9 (9)	24.7	25.9 (19)

between violent ideological groups and non-ideological groups, $\chi^2(1, N = 69) = 16.79$, $p < .001$, and nonviolent ideological groups, $\chi^2(1, N = 68) = 16.72$, $p < .001$. However, no difference was observed in active control between non-ideological and nonviolent ideological groups, $\chi^2(1, N = 73) = .05$, $p = .83$. These results offer mixed support for H3a and full support for H3b.

5. Discussion

Notwithstanding all of the advantages that interactivity can bring, violent ideological groups opted to include fewer features on their websites that support two-way communication (H1b), links to social media (H2b), and active control (H3b) than groups in the non-ideological and nonviolent ideological categories. We observed this despite the fact that interactive tools are relatively inexpensive to develop, easy to incorporate, and simple to manage in modern websites. Using a duality of goals perspective (Belanger et al., 2006), we hypothesized that this difference would occur as the result of organizational efforts to balance visitor and organizational goals. Consistent with our predictions, violent ideological groups were much more likely to prioritize organizational goals to preserve the organizations' messages. The difference between violent ideological groups and the other groups in the dimensions of interactivity is robust and is clear evidence that for violent groups, the goals of the organization to control the content and presentation of their messages clearly outweighed the potential benefits to website visitors. However, this finding appears to be limited to groups that employ only the most extreme tactics in advocating their cause (e.g., violence).

The difference between violent ideological groups and the other categories of groups was especially pronounced in comparisons of social media features (H2b). Social media are largely operated by independent third parties where users can say whatever they wish for all users to see. In comparison to two-way communication and active control, organizations that link to social media run an even greater risk of losing control of the message they desire to send. Our results suggest that this risk is too great for most violent ideological groups. In speculating about the generalization of this these findings, we believe that the purposeful curtailing of social media will likely be limited only to those groups or websites that either do not wish for the added attention that social media brings or will be so controversial and likely to attract countering messaging so as to lose complete control over their core message.

We also note that credible threats against the safety of others and overt hate speech may be against the terms of service for some social media companies (e.g., Facebook). This may be one

alternative explanation for the lack of use of social media by violent groups. However, other social media companies (e.g., Twitter) may permit potentially inflammatory messages as long as they do not contain specific, credible threats of violence. We draw attention to the small percentage of violent groups actively using social media. This was most apparent in permitting visitors to recommend the site to others (25%) and permitting visitors to follow the group (31.25%). Official sanctions (e.g., by the service provider) against violent groups pertain mainly to direct or overt threats, but may not pertain generally stated beliefs. Thus, even some violent groups are able to spread their message through social media.

When we reconcile the findings presented here with other interactivity research, we uncover an important inconsistency. These findings differ from our previous results which relied on perceptual measures of interactivity (Dunbar et al., in press) and showed no difference in two-way communication among the categories of groups. In this work, we measured interactivity more objectively by counting features present on websites. Here, we demonstrated distinct differences in two-way communication between the categories of groups we studied. Thus, the method by which interactivity is measured is critical to understanding how interactivity affects visitors. This inconsistency between perceptual measures and more objective measures has been

Table A-2
Correlations for social media features.

	1	2	3	4
1.Contact administrator (social media)	1			
2. Contact members (social media)	.765**	1		
3. Recommendations (social media)	.445**	.381**	1	
4. Links to third party (social media)	.500**	.406**	.445**	1

Table A-1
Correlations for two-way communication features.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Contact site administrator (text chat)	1														
2. Contact site administrator (phone)	.156	1													
3. Contact site administrator (other syn.)	–	–	–												
4. Contact group members (text chat)	.594**	.016	–	1											
5. Contact group members (phone)	–	–	–	–	–										
6. Contact group members (other syn.)	–	–	–	–	–	–									
7. Ability to purchase goods from site	−.118	.091	–	−.230*	–	–	1								
8. Contact site administrator (Email)	−.017	.224*	–	−.061	–	–	−.079	1							
9. Contact administrator (message board)	.176	−.089	–	.264**	–	–	−.122	.010	1						
10.Contact administrator (web forms)	.144	.054	–	−.017	–	–	.403**	−.211*	−.044	1					
11. Contact administrator (fax)	−.100	.345**	–	−.046	–	–	.011	.194*	−.144	−.025	1				
12. Contact admin. (mailing address)	.026	.451**	–	−.020	–	–	.074	.325**	−.252*	.044	.388**	1			
13. Contact administrator (other asyn.)	−.061	.065	–	−.049	–	–	.047	−.251*	.075	.144	.071	−.075	1		
14. Contact members (Email)	.165	.126	–	.220*	–	–	−.129	.081	.142	−.117	.161	.102	−.049	1	
15. Contact members (message board)	.159	−.108	–	.247*	–	–	−.124	.028	.946**	−.047	−.174	−.221*	.061	.129	1
16. Contact members (blog)	.208*	−.067	–	.315**	–	–	.207*	.077	.141	.284**	.094	−.089	−.156	.094	.108
17. Contact members (web forms)	.204*	−.018	–	−.034	–	–	.149	−.093	.333**	.157	−.010	−.052	.204*	−.034	.315**
18. Contact members (other asyn.)	.138	.042	–	−.044	–	–	.103	−.037	.215*	.026	.111	.005	.330**	.189	.198*
19. Recommendations (email)	.040	.110	–	.033	–	–	.228*	.181	.037	.159	.083	.153	−.043	.033	−.003
20. Recommendations (other method)	−.042	−.018	–	−.034	–	–	.033	−.093	.052	.043	−.010	−.052	−.042	.265**	.043
21. Podcasts	.251*	.077	–	.203*	–	–	.079	.089	−.010	.156	−.081	.010	.017	−.081	−.028
22. Blogs	.130	.176	–	.172	–	–	.300**	.141	−.027	.287**	.252*	.216*	−.118	.172	−.033
23. Feedback collection	.218*	.118	–	.117	–	–	.196*	.125	.010	.281**	.053	.158	.071	−.061	−.005
24. E-Cards	.060	.205*	–	−.065	–	–	.150	.040	−.008	.037	.161	.087	.060	−.065	−.022
25. Product suggestions from members	.116	−.026	–	−.049	–	–	.213*	.101	.176	−.021	−.015	.026	.116	−.049	.159

	16	17	18	19	20	21	22	23	24	25
1. Contact site administrator (text chat)										
2. Contact site administrator (phone)										
3. Contact site administrator (other syn.)										
4. Contact group members (text chat)										
5. Contact group members (phone)										
6. Contact group members (other syn.)										
7. Ability to purchase goods from site										
8. Contact site administrator (Email)										
9. Contact administrator (message board)										
10.Contact administrator (web forms)										
11. Contact administrator (fax)										
12. Contact admin. (mailing address)										
13. Contact administrator (other asyn.)										
14. Contact members (Email)										
15. Contact members (message board)										
16. Contact members (blog)	1									
17. Contact members (web forms)	.145	1								
18. Contact members (other asyn.)	−.042	.499**	1							
19. Recommendations (Email)	.446**	.086	−.099	1						
20. Recommendations (other method)	.145	−.029	−.038	.202*	1					
21. Podcasts	.164	.093	.037	.205*	−.070	1				
22. Blogs	.505**	.033	.103	.462**	.149	.189	1			
23. Feedback collection	.108	.152	−.068	.085	−.053	.264**	.265**	1		
24. E-cards	.010	.139	.080	.250*	−.056	.517**	.150	.017	1	
25. Product suggestions from members	.026	.204*	.330**	−.043	−.042	.251*	.047	.071	.200*	1

$N = 105$.
* $p < .05$.
** $p < .01$.

Table A-3
Correlations for active control features.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Internal links	1														
2. Hot links	−.014	1													
3. External links	−.034	−.024	1												
4. Embedded video controls	−.026	−.118	.122	1											
5. Embedded audio controls	−.115	.046	.116	.464**	1										
6. Search on homepage	−.088	−.062	.026	.141	.243*	1									
7. Search on content pages	−.090	−.063	.111	.242*	.196*	.746**	1								
8. Software downloads	.028	.020	−.165	.037	.036	.126	.129	1							
9. Site map	−.043	.072	.096	−.047	.068	.290**	.346**	.166	1						
10. Newsletter signup	−.123	−.087	.113	.150	.116	.334**	.354**	−.025	.250*	1					
11. Email alerts signup	.026	−.082	.129	−.015	.090	.116	.140	−.138	.128	.475**	1				
12. RSS feeds	.143	−.095	.171	.228*	.209*	.356**	.415**	.094	.119	.256**	.082	1			
13. Drop-down menus on homepage	.012	−.090	.186	.142	.034	.393**	.328**	−.117	.117	.269**	.091	.294**	1		
14. Drop-down menus other	−.009	−.105	.148	.153	−.043	.338**	.354**	−.186	.149	.287**	.119	.222*	.858**	1	
15. Language choice	.082	.058	.051	−.047	.176	.276**	.190	−.003	.159	.168	.135	.179	.102	.149	1
16. Registration required (main site)	.050	.035	−.169	−.117	−.091	.161	.101	.241*	−.077	.076	−.066	.050	.029	.024	.131
17. Reg. req. (view message boards)	–	.170	–	−.419*	−.159	.005	−.367*	−.170	−.005	.255	.455*	−.316	.305	.133	−.070
18. Reg. req. (post on message boards)	–	−.097	–	−.127	−.536**	.025	.167	.097	−.025	.053	.018	−.018	.209	.127	−.525**
19. Reg. req. (view blogs)	−.360**	.043	.043	.034	.132	.165	.050	−.076	.009	.039	−.043	.028	−.043	−.165	.104
20. Reg. req (post to blogs)	−.109	−.109	−.109	.186	.009	.033	.163	.192	−.139	−.069	−.289*	−.256*	.013	−.114	−.144
21. Connection to mobile phone	.031	.022	.055	.087	.127	.141	.145	−.044	.303**	−.073	.004	.217*	.115	.149	.380**
22. Text-only website option	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
23. Evid. of cookies (“Remember me”)	−.336**	.020	.049	.138	.036	.126	.129	.220*	.166	.176	.065	.094	.083	.113	−.003
24. Wish lists	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
25. Turn adobe flash on/off	.014	.010	.024	−.082	−.046	−.155	−.152	−.020	−.072	−.111	.082	−.101	−.107	−.092	−.058
26. Age requirement	.028	.020	.049	.138	.036	−.094	−.089	−.040	−.043	.075	.065	−.006	−.017	.013	.224*
27. Change color scheme of site	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
28. Make website homepage	−.394**	.017	.042	.206*	−.081	.108	.111	.265**	.232*	−.079	−.090	−.062	.043	.069	.030

	16	17	18	19	20	21	22	23	24	25	26	27	28
1. Internal links													
2. Hot links													
3. External links													
4. Embedded video controls													
5. Embedded audio controls													
6. Search on homepage													
7. Search on content pages													
8. Software downloads													
9. Site map													
10. Newsletter signup													
11.Email alerts signup													
12. RSS feeds													
13. Drop-down menus on homepage													
14. Drop-down menus other													
15. Language choice													
16. Registration required (main site)	1												
17. Reg. req. (view message boards)	.323	1											
18. Reg. req. (post on message boards)	.233	.289	1										
19. Reg. req. (view blogs)	.039	.362	−.322	1									
20. Reg. req (post to blogs)	.097	−.472*	.215	−.007	1								
21. Connection to mobile phone	−.080	−.245	−.197	−.089	.090	1							
22. Text-only website option	–	–	–	–	–	–	–						
23. Evid. of cookies (“Remember me”)	.241*	–	–	.118	−.043	−.044	–	1					
24. Wish lists	–	–	–	–	–	–	–	–	–				
25. Turn adobe flash on/off	−.035	–	–	−.043	−.151	−.022	–	−.020	–	1			
26. Age requirement	.085	−.245	−.197	−.043	.109	.189	–	−.040	–	−.020	1		
27. Change color scheme of site	–	–	–	–	–	–	–	–	–	–	–	–	
28. Make website homepage	−.062	−.170	.097	.225	.155	.230*	–	.265**	–	−.017	−.034	–	1

$N = 105$.
* $p < .05$.
** $p < .01$.

previously observed (e.g., Voorveld et al., 2011) such that discrepancies in assessments of interactivity were found when evaluated on the basis of features or rating scales. Our findings, taken together with others' findings, suggest that both objective and subjective assessment are necessary when determining website interactivity. More importantly, our findings indicate that not all objectively observed website features translate into an equal amount of perceived interactivity. Therefore, an important area for future research is understanding which website features offer the most significant gains in perceived interactivity and which do not. Identifying these key website features will allow organizations to focus their efforts should they desire a high degree of perceived interactivity.

A surprise of this research was the relative comparability of the nonviolent ideological websites and the non-ideological websites. Across all dimensions of interactivity we coded, these two groups were nearly identical, suggesting a similar prioritization of visitor goals in relation to organizational goals. This finding has several potential implications. The first is that nonviolent ideological websites may value the benefits of interactivity more than they

value control over their message. This could indicate a greater willingness to tolerate dissenting view points, engage with a variety of people, and offer openness to the general public similar to that of non-ideological websites. Such willingness could promote dialogue among political, social, or religious group members as individuals are freer to engage with the web resources these groups offer. However, it is important to note that even with greater website interactivity, ideological groups still maintain control over the content of their websites even if the content is user-generated or altered in layout or presentation by users (linkages to social media which are third parties are a notable exception). Thus, it is possible for ideological groups to give the appearance of greater openness through interactivity and reap some of the benefits that interactivity has to offer but still maintain substantial control over messaging through moderation and censorship of dissent. Whether the inclusion of greater interactivity is an indication of additional openness or merely the appearance of it remains to be seen. But other aspects of our findings suggest that the high level of linkages to social media, which ideological groups do not control, evidence a greater willingness for openness and engagement.

Second, these results also suggest that nonviolent ideological groups are using social media at a level at least on par with large organizations today. Increasingly, individuals congregate through social media and this finding may be indicative of the imperative for nonviolent ideological groups to follow the masses. Similar to businesses who must meet their customers where they are if they expect to survive, ideological groups must also meet potential and existing members where they are if they expect to survive. This is evidenced by a surprising 83.3% of all nonviolent ideological groups linking with social media to permit visitors to follow the ideological group, a percentage we note that in an absolute comparison exceeds that of the non-ideological groups. Attracting the masses may be of lesser import for violent groups who appear to use their online resources to screen and reach likeminded individuals rather than appeal to large groups of people.

6. Limitations and future research

There are several limitations that should be considered when interpreting this research. First, this work examined only public facing webpages in English. It is possible that the differences between groups we noted on the public webpages could change when private webpages (e.g., webpages behind a login) or non-English websites are taken into account. An interesting extension of this research would be to investigate non-English websites. Second, we cannot rule out the possibility that group leadership or membership was not well-versed in the most recent technology and that the lack of website interactivity was a result of ignorance. A fruitful extension to this research may be to survey groups in the categories we have designated to learn more about their web traffic patterns and website design decisions. Although some of these groups are notoriously difficult to engage, such engagement could confirm a conscious preference for control over interactivity and accurately gauge visitor behavior. Finally, this sample was not randomly drawn and consequently there could be other explanations (e.g., group size, access to resources) that could contribute to the disparity in interactivity. We attempted to mitigate this issue by drawing a broad sample of functioning groups from around the world, but we nonetheless acknowledge this as a limitation.

7. Conclusion

Past research has shown substantial benefits from interactivity on the websites of organizations, and our research has shown that many groups avail themselves of these benefits through the design of their websites. However, we have highlighted an important tradeoff that organizations consider when approaching the interactivity on their websites. By relying on the notion of duality of goals, we have shown that there is a tradeoff between interactivity and the level of control an organization wishes to maintain over the content and presentation of its message. When organizations desire tight control over their content, they employ less interactivity on their websites.

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Appendix A

Tables A-1–A-3 present the correlations among the features under two-way communication, social media, and active control dimensions of interactivity. Since the features are dichotomous, correlations were calculated using Φ coefficient and were tested on a χ^2 distribution (Sheskin, 2003). Because of the large number of correlations, we recommend caution in interpreting these tables. As shown in Tables 3–5 some features of interactivity were not observed on any of the websites. Therefore correlation coefficients were not calculated for these features.

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