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Voting Yes for Funding Public Parks: The Effectiveness of Social Media Communication in a Tax Referendum Campaign

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Executive Summary

Although local park and recreation agencies rely on various types of funding, tax-based allocations are the most significant funding source. Unfortunately, tax-based allocations have not kept pace with growing user demands and maintenance backlogs. As such, successful tax referenda are becoming critical for sustained operations and capital investment. Among the various activities that may sway public opinion, strategic messaging through a variety of media may be one of the most important. Using a county-level public park agency's 2020 tax referendum as a case study, the purpose of this study is to identify successful communication strategies of open space referendum campaigns that secure support from voters. Data were collected from the campaign's official Facebook page to examine what message content and post type were effective in increasing voter awareness and engagement.

Results from regressions showed that messages that explained the ballot in plain language (e.g., Simplify Ballot Language), demonstrated support or approval from local organizations or local champions/celebrities (e.g., Endorsement), broke down the total amount of tax being requested (i.e., Temporal Reframing), and emphasized the direct benefits if the referendum were passed (i.e., Direct Outcome) were most effective in increasing the awareness of the referendum. Among Facebook page followers, posts that demonstrated campaign efforts/activities (i.e., Demonstration) and acknowledged individuals' or organizations' efforts to support the campaign (i.e., Acknowledgement) effectively increased engagement. In terms of Facebook post types, photo posts and video posts generally performed better than link and shared video posts. The study has three main practical implications for open space referenda advocates and managers concerned with campaign communication: (1) solicit and demonstrate support from highly regarded local organizations or individuals; (2) emphasize the direct benefits and break down the total amount of tax being asked; and (3) use short videos and scenic images.

Keywords

Open space referendum, green ballot measures, property tax increase, financing conservation, persuasive communication

Introduction

Although local park and recreation agencies rely on a variety of funding sources, tax-based allocations are by far the most significant, accounting for approximately 60% of the operating budget of the average local agency (NRPA, 2020). Unfortunately, tax-based allocations to local parks and recreation are often modest relative to other local public services and may not keep pace with growing user demands and maintenance backlogs (Pitas et al., 2017). As such, local agencies often work to supplement the funding provided by tax-based allocations in a variety of ways, such as through earned revenue, philanthropic support, grants, and sponsorship payments. Simultaneously, many agencies engage in cost-cutting measures such as outsourcing and reduced staffing or services. While these strategies are important, sustaining and advocating for tax-based funding remains a viable funding strategy for many governmental park and recreation agencies.

In addition, many local municipalities have the capacity to engage in voter referenda as a means of increasing tax-based support. The referendum is a form of direct democracy, in which voters take a direct role in determining public policy in their local area, voting to either affirm or reject specific proposals (Lupia & Matsusaka, 2004). Although referenda may address a variety of issues, they are commonly used as a mechanism to preserve open space or provide funding for specific parks and recreational purposes. Significantly, such "open space referenda" are often among the most popular, and historically pass at a higher rate than referenda targeting other issues (Nelson et al., 2007), with high levels of voter support (Banzhaf et al., 2010).

Although there is evidence that this type of voter referendum is becoming increasingly prevalent and important in the United States, there is a relatively small body of research that addresses this phenomenon (Beaghen, 2013). Existing work has largely focused on demographic factors related to the likelihood of a referendum being included on the ballot, and factors that relate to their success or failure. This study seeks to contribute to this area of knowledge, by exploring the use and effectiveness of strategic messaging in rallying the public's support for a tax referendum to increase public funds for a county-level public park agency's operation. Specifically, this study utilized the official Facebook page of the referendum campaign to examine what message content and type were effective in increasing awareness and engagement among Facebook users.

Literature Review

Open Space and Park Related Voter Referenda

A variety of specific factors at the local level are related to the likelihood that a municipality will hold an open space referendum, and to their subsequent success or failure. For example, municipalities with an affluent, highly educated, and growing population, but relatively low development density are more likely to hold open space referenda (Nelson et al., 2007). One explanation may be that voters in these areas are

most likely to witness first-hand the impacts of low-density sprawl on surrounding open space (Howell-Moroney, 2004) and value the benefits provided by open space and park and recreation assets to address these concerns. With this in mind, such referenda are most common in the densely populated northeastern United States, where development pressures are often greater, and demographic factors are conducive to this type of ballot item (Nelson et al., 2007).

The success of this type of open space referenda is linked to many of the same factors. Given what is known about the factors that relate to a successful open space referendum, there may be a degree of selection bias, as organizers are most likely to bring referenda forth where they are likely to be successful (Banzhaf et al., 2010). For example, open space referenda are most likely to succeed in communities with rapid population growth, a relatively strong economy, high levels of education (Nelson et al., 2007), and high-density residential land use (Hawkins & Yu, 2018). The community where this study took place represents a likely location for a successful open space referendum. With a public university anchoring a strong local economy and a highly educated, growing population, the community of the current study fits the profile described by Nelson and colleagues (2007). However, the large proportion of land allocated to agricultural production would seem to diminish the chances of a successful property tax-based referendum (Banzhaf et al., 2010). Although their analysis did not show a statistically significant effect of political affiliation, Nelson and colleagues (2007) found that highly educated and environmentally conscious voters were more likely to support open space referenda. This is consistent with previous work that indicates a positive relationship between concern for the natural world and support for allocating tax-based funding to park and recreation services (Pitas et al., 2019), and is unsurprising given the focus of open space referenda.

Besides resident characteristics, research has also explored voting district characteristics related to land use. For instance, Hawkins and Yu (2018) found that voting districts with high-density residential land use are more supportive of environmental bond referenda compared to voting districts with a high level of open space. Prendergast et al.'s (2019) analysis extended Hawkins and Yu's (2018) study and found that it was residents' perceptions about the amount of open space, rather than the objective amount of open space, that determined their support for open space referenda.

Sometimes open space referendum campaigns are purely local in their origin and activities, while in other cases local organizations act at the direction of, or in consultation with, larger national organizations; some organizations such as the Trust for Public Land even publish manuals designed to help local organizers launch and execute a successful campaign (Hopper & Cook, 2004; McQueen & McMahon, 2003). As such, municipal open space referenda are simultaneously examples of local direct democracy, and also pieces of nationwide efforts to protect open spaces and natural resources. In some respects, this is an example of polycentric conservation, as individual actors work independently of one another to protect and deliver common-pool resources, rather than relying on a central authority to direct their actions (Ostrom, 2010).

To sum up, the current literature related to open space referenda mainly focused on voter characteristics (e.g., Deacon & Shapiro, 1975; Hawkins & Yu, 2018; Nelson et al., 2006;), land use (Hawkins & Yu, 2018;) and voters' perceptions of land use (Prendergast et al., 2019), and referendum characteristics (Kotchen & Powers, 2006).

However, regardless of their origin and execution, the success or failure of open space referenda do not lie solely in the characteristics of a municipality and its residents. Clearly, activities by local individuals, activities, and organizations play a large role in influencing public opinion and voter behavior (Banzhaf et al., 2010). Among the various activities that may sway public opinion, strategic messaging through a variety of media may be one of the most important. To that end, in the sections that follow, we present an overview of strategic messaging and message content.

Strategic Messaging and Message Content

The success of a ballot initiative campaign such as a tax referendum partly lies in effective and persuasive communication. In communication research, message features (including message style and content) and their effects on persuasion have been a prevalent area (Shen & Bigsby, 2013). In leisure research, there has been a wealth of research focusing on the effect of messages on user fee acceptability, which informs the current study. A total of seven categories of message content that are relevant to the context of public land tax referenda were identified from this body of leisure literature: direct outcome, loss framing, temporal reframing, community and user benefits, story and narrative, other-referencing, and psychological ownership.

Direct Outcome and Loss Framing

Past research has suggested that outcome information that conveys the potential consequences of failure or success of an initiative is effective in shaping perceptions and behaviors (Kim & Crompton, 2001; Kyle et al., 1999; McCarville et al., 1993). In the context of recreation and parks, lack of funding generally results in closing or limited access to facilities or services (i.e., loss framing), and the increased funding will be used to improve the quality and number of services (i.e., direct outcome). Previous leisure research has consistently demonstrated the effects of loss framing and direct outcome messages. McCarville et al. (1993) conducted an experiment in the context of user fees for a public aerobic program. They found that messages that emphasized the use of additional funds for improving the recreation center significantly increased the users' acceptable fee level, but the loss message was not effective. Kyle et al. (1999) found that both loss framing and direct outcome messages increased 10k race attendees' reference price. Kim and Crompton's (2001) study also revealed that loss framing was effective in increasing willingness-to-pay for an annual pass among Texas state park visitors.

Temporal Reframing

Temporal reframing is a message framing technique that lengthens the time frame over which a price is paid to reduce the perceived cost (Crompton, 2016; Gourville, 1998). This "Pennies-a-Day" strategy reframes a large expense (e.g., $360 per year) as a small ongoing expense (e.g., $1 per day) to reduce the perceived magnitude of the costs (Gourville, 2003). The smaller ongoing expense is effective in lowering perceived costs because they are considered more trivial and affordable than an aggregate lump sum (Crompton, 2016). Previous research, particularly in the marketing literature, has found support for the effectiveness of this strategy in shaping perceptions and behaviors (e.g., ; Chandran & Menon, 2004; Gourville, 1998).

Community and User Benefits

Leisure research has shown that parks and recreation services have a wide range of benefits, including individual, social, economic, and environmental benefits (Bedimo-Rung et al., 2005). Yet, these benefits of parks and recreation are generally under-appreciated by community stakeholders, particularly the social, economic, and environmental benefits (Kaczynski & Crompton, 2004), which may potentially affect funding decisions and allocations for park and recreation services (Powers et al., 2021). Crompton (2016) argued that both user and broader community benefits should be used as a positioning strategy to advocate more funding for public park and recreation services.

Story and Narrative

Persuasion and communication research has consistently shown that narrative and storytelling have substantial persuasive power and are more persuasive than non-narrative messages (O'Keefe, 2016). For instance, Adaval & Wyer (1998) reported that vacations were evaluated more favorably when they were described in a narrative than in a list of features. Kim et al. (2012) found successful stories about smoking cessation increased the intention to quit smoking among smokers. Telling a story is effective in shaping perceptions and behaviors because people identify themselves with the narratives and stories; that is, people can see themselves in the stories (O'Keefe, 2016). Although the use of narrative as a persuasive communication strategy has been widely examined in various contexts, it remains relatively unknown how well it will work in rallying support for a tax referendum in the context of the public park.

Other-Referencing

Other-referencing is a persuasion strategy that highlights the impacts of a decision on others (Gardner & Leshner, 2016), particularly future generations. Highlighting the influence of individual choices and actions on others and future generations is considered intuitively appealing in environmental communications because rationales for engaging in pro-environmental behaviors are community-oriented (Loroz, 2007) and future-oriented. This other-referencing strategy has been widely used in environmental communications, and the literature supports the efficacy of this communication strategy. Loroz (2007) reported that emphasizing the benefits of recycling behaviors to the future of others was more likely to result in a favorable attitude towards recycling.

Psychological Ownership

Psychological ownership refers to a feeling of ownership for objects, particularly for public goods such as public parks (Peck et al., 2021). The concept can be adopted in strategic messaging by making people feel a sense of ownership as if the public goods are one's own, although no legal ownership is being transferred (Pierce et al., 2003). The feeling of ownership can be created in various ways, including explicitly stating ownership (e.g., "Welcome to YOUR park," Peck et al., 2021) and naming/nicknaming an object (Stoner et al., 2018). There is research evidence that psychological ownership increases the perceived value of public goods. For example, Peck and colleagues (2021) found that state park visitors who had a higher level of psychological ownership donated more to the park.

Public communication is undoubtedly one of the key factors to the success of open space referenda, as referendum campaigns are essentially about communicating with voters. In fact, the majority of the referendum campaign budget is spent on communication (TPL Action Fund, n.d.), and campaign decisions related to communication and messaging are particularly critical. An understanding of what message content resonates with voters would provide important insights for crafting campaign messages and lay the foundation for a successful open space referenda campaign.

Methods

Study Context

The current study was a case study focused on a county-level public park agency in the U.S. Midwest. The agency is charged with the stewardship of seven forest preserves covering about 4,000 acres and relies heavily on public funds, specifically property tax support, for its annual operations as well as maintenance of and improvements to its capital assets and infrastructure. Subject to property tax caps enacted in the mid-1990s, the agency had long struggled to cover its administrative expenses, maintain its natural areas and visitor amenities, and make necessary capital and infrastructure investments. To request funding beyond what is allowed by law, a tax-capped agency must seek approval from voters under a formal referendum process at an election open to all registered voters within the agency's jurisdiction.

The agency had gone to the voters to ask for an increase in its property tax limiting rate twice prior to 2020, most recently at the general election in 2008, without success. Thus, its sights were set on the 2020 general election to seek voter support again. Planning for the November 2020 referendum began to take shape nearly two years prior to the election. As local government agencies are prohibited from engaging in campaign activities, the municipality focused instead on growing its visibility within the community and educating the public about its programs, parks, and educational offerings. It increased its social media presence, expanded its network of connections with other local governments and nonprofit organizations, and used radio, television, and print media to reach more audiences. A campaign committee of volunteers was assembled to begin developing plans for the referendum effort. The committee consisted of members of its citizens advisory group, its nonprofit foundation board members, long-time program volunteers, and natural area stewards. Its primary responsibility was to share referendum information and educate voters in the areas listed above via various channels (e.g., radio advertisements, presentations to community organizations and service clubs, distribution of yard signs, letters to the editor in the local newspaper, direct mail, and social media). The campaign's Facebook page, along with other social media sites (e.g., Instagram, Twitter), was created and administered by the committee. Only the Facebook page had sizable followers and was constantly updated with posts throughout the campaign. Thus, the Facebook page was chosen for the analysis.

Data and Measures

Data were collected from the Facebook page of the referendum campaign which was created on August 7, 2020. Since the current study focused on the persuasive message type of the posts during the campaign, only post-level data from August 7 to November 3 (the Election Day) were included in the analysis, totaling 160 posts. Among them, four posts were promoted and advertised on and after October 20, 2020,

and thus these four posts were excluded, resulting in 156 posts in the final analysis. The number of posts peaked in October, as 60.6% of the posts were created in October. August, September, and November accounted for 9.4%, 17.5%, and 12.5%, respectively.

To quantify post content, all posts were content analyzed based on a codebook developed from the literature review. Content analysis is a popular approach among research focusing on the characteristics of language and communication (Tesch, 1990), which is deemed appropriate for the current study. An a priori coding scheme was utilized to strive for an optimal level of objectivity/intersubjectivity (Neuendorf, 2017). The a priori codebook consisted of seven persuasive message contents that were identified through the literature review. An additional nine persuasive strategies were added throughout the coding process (see Table 1). Most posts utilized multiple persuasive strategies and thus could be coded as more than one content type. Thus, posts were coded up to three types of message content. For lengthy posts, if there were more than three message content types identified, the first three types that emerged from the post were coded. As such, the final sample size in the analysis was 304. One researcher coded all posts, and the codes were reviewed by another researcher. In addition, the two researchers met regularly to discuss the additional message content types that emerged from the content analysis and modified the codebook when needed. Table 1 shows the definitions, examples, and descriptive statistics of the coded message types.

The independent variables in this study were comprised of post content and post type (see Table 1). The post type variable was automatically created by Facebook and included five types (i.e., photo, link, video, shared video, and status). Dependent variables of interest encompassed each post's performance metrics. A total of six performance metrics were included in the analysis: Impression, Reach, Engagement, Impression among Liked Followers, Reach among Liked Followers, and Engagement among Liked Followers. Table 2 shows the definition and descriptive statistics of the dependent variables. Lifetime Total Likes, which was defined as the total number of unique users who have liked the page, was included as a control variable as it could potentially confound the effects of post content and post type on post performance. The data analysis started with descriptive statistics to identify the central tendency and dispersion of the variables. All categorical variables were presented as frequencies, while numeric variables were presented as mean, standard deviation, median, minimum, maximum, and skewness. Multiple regressions were then conducted to investigate the effects of message content and post types on post performance.

Results

As shown in Table 1, the most common types of post content were Function/Value of the Preserves (20.7%) and Call to Action (20.4%), followed by Story and Narrative (9.5%), User Benefits (8.2%), and Temporal Reframing (7.2%). As for post types, Photo posts (55.7%) and Link posts (25.3%) were the two dominating post types, followed by Video posts (12.7%). Table 2 showed that posts tended to have more impressions and reach but lower engagement because it was more difficult to get users to take action than to have them see the content. The performance metrics among liked followers were generally lower than those among all users. It is also worth mentioning that most post performance metrics were spread out over a large range of values, of high variance and highly right-skewed.

Table 1

Descriptive Statistics of Independent Variables

	Definition	Example Post	Frequency	Percentage
Post Content				
Function/Value of the preserves	showcase the functions, activities, and natural beauty of the forest preserves	*"[preserve name], a 160-acre gem on the Grand Prairie! Perfect for picnicking, birding, fishing and more."*	63	20.72
Call to action	Prompt a response or encourage an action	*"Post your photos with VOTE yes yard signs and share!"*	62	20.39
Story and narrative*	share users' personal stories related to the preserves	*"[Resident's name] of [town name] shared her story with us and why she and her husband, [husband name], are voting YES! …… "We love camping with friends at [Preserve name]. It is a wonderful campground with good facilities. [Preserve name] attracts visitors and campers from all over the state due to its International Dark Sky Park designation. We encourage everyone to support this sanctuary by visiting it and voting Yes to Forests." Photos by [resident name]"*	29	9.54
User Benefits*	emphasize the benefits of the preserves for users	*"Your health and well-being are worth it!"*	25	8.22
Temporal Reframing*	lengthen the time frame over which a given tax is paid or provide information of the increased tax requested by the referendum	*"The owner of a home valued at $100k would pay about $5.33 more per year - 45 cents per month"*	22	7.24
Acknowledge /Appreciation /Recognition	acknowledge and thank individuals or organizations supporting the campaign	*"Thank you to all the volunteers!"*	18	5.92
Direct Outcome*	describe the direct benefits if the referendum were passed	*"The new funds will help to maintain, improve, and restore failing infrastructure, aging buildings, and deteriorating facilities at our older preserves."*	16	5.26

Table 1 (cont.)

Demonstration	demonstrate campaign efforts/activities	*"The signs are in place and voting is under way! Here's [committee member name] of the Citizens Advisory Committee and the YES Committee outside the [town name] Public Library."*	13	4.28
Past Successes	emphasize and present evidence of past excellence and successes	*"[A museum managed by the agency] is 1 out of 9 museums in downstate [state name] to receive this distinction."*	10	3.29
Other-referencing*	emphasize the impacts on others or future generations	*"We owe our children and grandchildren to protect and preserve [county name] natural heritage."*	10	3.29
Psychological Ownership*	create a feeling of ownership	*"It's YOUR heritage, after all."*	8	2.63
Information on voting logistics	provide information about voting logistics	*"Polls will be open to 7 PM!"*	8	2.63
Endorsement	showcase support from individuals or organizations	*"Thanks again to our endorsers! [a list of endorsed organizations]"*	7	2.30
Countdown	Backward count to indicate the date remaining before the election day	*"7 days to Vote YES..."*	6	1.97
Loss Framing*	describe the direct consequences if the referendum were not passed	*"Voting No means ... cutting programs and events at [an interpretive center]."*	4	1.32
Simplify Ballot Language	plain ballot language in a simple and easy-to-understand manner	*"If you're wondering what to look for on the ballot, here is a glimpse at the language and more detail on the referendum and what it will fund."*	3	0.99
Post Type				
Photo	A post includes a picture or image		88	55.70
Link	A post that links to outside content		40	25.32
Video	A post includes a video		20	12.66
Shared Video	A post that shares a video from other users/pages or outside of Facebook		6	3.80
Status	A text-only post		4	2.53

* Message types identified from the literature review.

Table 2

Descriptive Statistics of Dependent Variables

	Definition	N	Mean	S.D.	Median	Min	Max	Skewness
Impression	The total number of times Page's post entered a person's screen. One person can have multiple impressions.	304	468.4	909.6	206	56	7229	5.25
Reach	The total number of unique people who had Page's post enter their screen.	304	392.7	781.1	166	42	5964	5.30
Engagement	The total number of unique people who engaged in certain ways with Page posts, for example, by commenting on, liking, sharing, or clicking upon particular elements of the post.	304	37.3	49.7	23	3	352	3.57
Impression among liked followers	The total number of impressions of Page post to people who have liked the Page.	304	179.7	66	181	45	499	1.15
Reach among liked followers	The number of people who saw the Page post because they've liked the Page.	304	140.5	46.1	137.5	33	324	0.13
Engagement among liked followers	The number of people who have liked the Page and engaged in the posts in certain ways.	304	21.5	12.9	20	3	107	1.73

Post content types and post types were dummy coded (i.e., 0 denotes "no", and the value of 1 denotes "yes"). Due to the high skewness, all dependent variables except for Reach among Liked Followers were logarithmically transformed to reshape the distribution closer to a normal distribution. A total of six multiple regressions were performed with post content types and post types as the independent variables and each of the six post performance metrics as dependent variables. All variance inflation factors (VIFs) were smaller than 2, suggesting that multicollinearity was not an issue in the analysis (Tabachnick & Fidell, 2006). Since post content and post type were dummy coded, a set of dummy variables were used to capture the effects of message types and post types. The largest category in both post content and post type, Function/Value of the Preserves (for message type) and Photo (for post type) posts, was chosen as the reference group.

The Effectiveness of Message Content and Post Types

The results are displayed in Table 3. Models 1-3 estimated the effects of post content and post types on *Impression, Reach*, and *Engagement*. The models fit the data well with an adjusted R^2 of 0.264, 0.254, and 0.187 respectively, accounting for 26.4% of the variance in Impression, 25.4% in *Reach*, and 18.7% in *Engagement*.

In Model 1, the coefficients of *Endorsement* (b = .575, p < .001), *Simplify Ballot Language* (b = .789, p < .001), *Direct Outcome* (b = .198, p = .033), and *Temporal Reframing* (b = .205, p = .013) were significant and positive, indicating that posts of these message types generated more impression than *Function/Value of the Preserves* message type (the reference group). Model 2 revealed an identical pattern. Posts employing messaging strategies of *Endorsement* (b = .583, p < .001), *Simplify Ballot Language* (b = .794, p < .001), *Direct Outcome* (b = .205, p = .032), and *Temporal Reframing* (b = .214, p = .012) resulted in significantly higher reach than posts of *Function/Value of the Preserves*. Unlike Model 1 and 2, Model 3 showed more significant coefficients and demonstrated that *Endorsement* (b = .579, p < .001), *Simplify Ballot Language* (b = .562, p = .006), *Demonstration* (b = .228, p = .034), *Temporal Reframing* (b = .221, p = .011), and *Story and Narrative* (b = .175, p = .025) contributed significantly more user engagement than *Function/Value of the Preserves*.

To summarize the effects of post content on post performance across Model 1 to 3, posts that showcased public or official support from individuals or organizations (i.e., *Endorsement*), explained the ballot to make it easier to understand (i.e., *Simplify Ballot Language*), broke down the total amount of tax being requested (i.e., *Temporal Reframing*), and emphasized the direct benefits if the referendum were passed (i.e., *Direct Outcome*) were more likely to receive a greater level of attention or engagement among Facebook users.

Regarding the effects of post types, *Photo* and *Video* posts performed better as they were linked with a higher level of impression, reach, and engagement. Across Models 1 to 3, *Link, Shared Video,* and *Status* posts significantly decreased impression, reach, and engagement compared to *Photo* posts (the reference group). In addition, the absolute values of coefficients for *Shared Video* posts were the highest (ranging from .554 to .589) among all significant coefficients of the other post types, indicating that *Shared Video* posts performed the worst among all post types. The coefficient of *Video* posts was only significant in Model 1 but insignificant in Models 2 and 3, suggesting that *Video* posts tended to perform as well as *Photo* posts except for impression. These findings

Table 3
Regression Results

	Model 1[a, b] *log(Impression)*	Model 2[a, b] *log(Reach)*	Model 3[a, b] *log(Engagement)*	Model 4[a, b] *log(Impression among Followers)*	Model 5[a] *Reach among Followers*	Model 6[a, b] *log(Engagement among Followers)*
	All Users			*Among Followers who Liked the Campaign Page*		
Post Content[c]						
Call to action	0.05 (.06)	0.05 (.061)	0.078 (.062)	0.026 (.024)	3.016 (6.879)	0.057 (.043)
Countdown	0.098 (.142)	0.1 (.146)	0.081 (.149)	0.009 (.058)	-0.683 (16.387)	0.082 (.103)
Demonstration	0.077 (.102)	0.071 (.105)	0.228** (.107)	0.099** (.042)	29.079** (11.766)	0.209*** (.074)
Direct Outcome	0.198** (.093)	0.205**(.095)	0.159 (.097)	0.052 (.038)	10.935 (10.703)	0.07 (.067)
Endorsement	0.575*** (.132)	0.583***(.136)	0.579*** (.138)	0.183*** (.054)	37.899** (15.241)	0.37*** (.095)
Information on voting logistics	0.017 (.123)	0.012 (.127)	-0.177 (.129)	-0.065 (.05)	-21.242 (14.211)	-0.235*** (.089)
Acknowledgment/Appreciation	-0.017 (.088)	-0.006 (.091)	0.096 (.093)	0.045 (.036)	17.06* (10.209)	0.111* (.064)
Loss framing	0.171 (.169)	0.189 (.174)	0.004 (.177)	0.021 (.069)	2.865 (19.548)	-0.045 (.122)
Past Successes	-0.019 (.113)	-0.017 (.116)	-0.013 (.118)	-0.018 (.046)	-9.338 (13.012)	0.017 (.081)
Psychological Ownership	0.153 (.123)	0.145 (.127)	0.2 (.129)	0.027 (.05)	4.763 (14.211)	0.087 (.089)
Simplify Ballot Language	0.789***(.194)	0.794*** (.199)	0.562*** (.203)	0.245*** (.079)	47.521** (22.397)	0.245* (.14)
Story and Narrative	0.099 (.074)	0.108 (.076)	0.175** (.078)	0.027 (.03)	8.945 (8.576)	0.103* (.054)
Temporal Reframing	0.206**(.083)	0.215** (.085)	0.221** (.087)	0.095*** (.034)	24.164** (9.541)	0.16*** (.06)
Other-referencing	0.004 (.112)	0.019 (.115)	0.025 (.117)	0.005 (.046)	2.513 (12.944)	0.052 (.081)
User Benefits	0.089 (.078)	0.09 (.081)	0.075 (.082)	0.01 (.032)	-2.31 (9.045)	0.02 (.057)
Post Type[d]						
Link	-0.305*** (.048)	-0.313*** (.049)	-0.133*** (.05)	-0.081*** (.02)	-23.889***(5.532)	-0.081* (.035)
Shared Video	-0.554*** (.112)	-0.589*** (.115)	-0.555*** (.117)	-0.402*** (.046)	-97.747***(12.885)	-0.515*** (.081)
Status	-0.211** (.14)	-0.311** (.144)	-0.341** (.147)	-0.072 (.057)	-17.109 (16.161)	-0.252** (.101)
Video	-0.137** (.059)	0.086 (.06)	0.08 (.062)	0.037 (.024)	-19.332*** (6.794)	-0.015 (.043)
Total likes	0.00004 (.0001)	0.0001 (.0001)	-0.0003** (.0002)	0.0003***(.0001)	0.109*** (.017)	-0.0003*** (.0001)
Constant	2.412*** (.094)	2.277*** (.097)	1.505*** (.099)	2.061*** (.038)	90.704***(10.873)	1.385*** (0.068)
Adjusted R-squared	0.264	0.254	0.187	0.36	0.333	0.239
Observations	302	302	302	302	302	302

[a] Standard error in parentheses.
[b] Log transformation performed due to skewness.
[c] Reference level = Value of the Preserves.
[d] Reference level = Photo.
* p <0.1, ** p < 0.05, *** p<0.01.

suggested that posts that included photos and videos tended to be more effective, while posts that shared content from other sources tended to be least effective.

The Effectiveness of Message Content and Post Types Among Liked Followers

Models 4 to 6 reflected the effects of post content and post types on post performance metrics among followers who liked the campaign Facebook page. These three models explained 36%, 33.3%, and 23.9% of the variance in *Impression, Reach,* and *Engagement* among followers, respectively. Across Models 4 to 6, posts of *Endorsement* (b_{model_4} = .183, p < .001; b_{model_5} = 37.899, p = .013; b_{model_6} = .37, p < .001), *Simplify Ballot Language* (b_{model_4} = .245, p = .002; b_{model_5} = 47.521, p = .035; b_{model_6} = .245, p = .081), *Demonstration* (b_{model_4} = .099, p = .019; b_{model_5} = 29.079, p = .014; b_{model_6} = .209, p = .005), and *Temporal Reframing* (b_{model_4} = .095, p = .005; b_{model_5} = 24.164, p = .012; b_{model_6} = .16, p = .008) significantly performed better than the posts of *Function/Value of the Preserves* among followers.

In addition, *Acknowledgement/Appreciation/Recognition* (b_{model_5} = 17.06, p = .096; b_{model_6} = .111, p = .083) were associated with a higher level of impression and reach compared to *Function/Value of the Preserves* posts among followers. Interestingly, Model 6 revealed a significant negative coefficient of Information on *Voting Logistics* (b = -.235, p < .001) and a significant positive coefficient of *Story and Narrative* (b = .103, p = .056), implying that posts that provide information about the voting process and logistics didn't engage followers but posts that told users' stories increased engagement among followers.

As for the effects of post types, similar to Model 1-3, Model 4-6 showed a significant and negative coefficients of Link posts (b_{model_4} = -.081, p < .001; b_{model_5} = -23.89, p < .001; b_{model_6} = -.081, p = .02) and *Shared Video* posts (b_{model_4} = -.402, p < .001; b_{model_5} = -97.747, p < .001; b_{model_6} = -.515, p < .001), indicating that photo posts generally performed better than link and shared video posts. Unlike Model 1-3, the coefficient of *Status* posts was only significant (b = -.252, p = .013) in Model 6, suggesting that photo posts performed better than status posts only in engagement among followers. Additionally, the coefficient of *Video* posts was only significant (b = -19.332, p < .001) in Model 5, suggesting that photo posts performed better than video posts only in reach among followers.

Conclusions and Discussions

Analyzing Facebook data of a public park agency's 2020 tax referendum campaign, this study explored the effectiveness of various persuasive message types in increasing awareness and support for public land conservation referenda. It was found that messages that explained the ballot in plain language (e.g., *Simplify Ballot Language*), demonstrated support or approval from local organizations or local champions/celebrities (e.g., *Endorsement*), broke down the total amount of tax being requested (i.e., *Temporal Reframing*), and emphasized the direct benefits if the referendum were passed (i.e., *Direct Outcome*) were most effective in increasing the awareness of the referendum. Among Facebook page followers, posts that demonstrate campaign efforts/activities (i.e., *Demonstration*) and appreciate individuals' or organizations' efforts to support the campaign (i.e., *Acknowledgment/Appreciation/Recognition*) were effective in increasing engagement. In terms of post types, photo and video posts generally performed better.

This study explored a unique funding mechanism for public park agencies. While there is research in user fee messaging, the current study extends that literature to the context of open space referenda. To the authors' best knowledge, the current study is likely to be the first study focused on open space referenda campaigns and their communication strategies. A major contribution of the current study to the recreation and park literature is arguably the communication strategies that were newly identified and empirically tested as effective (i.e., endorsement, simplified ballot language, demonstration, acknowledgment). Moreover, the codebook developed in this study can serve as an a priori scheme for future research or as part of the best practice guidelines for open space referenda's social media communication. This study also demonstrated that communication needs to be tailored to different audiences. Specifically, Facebook page followers, who were likely to be strong supporters and advocates of the park agency, were interested in campaign updates and recognition/appreciation of individuals or organizations supporting the campaign.

This study showed that not all outcome information was receptive among voters. Although the findings on direct outcome and loss framing messaging have been mixed in user fee research (Kim & Crompton, 2001; Kyle et al., 1999; McCarville et al., 1993), this study revealed that voters who were exposed to open space referenda on social media (e.g., Facebook) seemed to prefer positive outcomes of a passed referendum (i.e., *direct outcome*) to negative outcomes of a failed referendum (i.e., *loss framing*). Voters tend to use cost-benefit analysis to evaluate a proposed referendum, and direct positive outcome messages can facilitate such analysis and voting decisions. Consistent with the literature (Chandran & Menon, 2004; Crompton, 2016; Gourville, 1998), *temporal reframing* was found to be a powerful messaging strategy for open space referendum campaigns. Similar to the *direct outcome* messaging, such cost-related messaging is compelling probably because it fits well with voters' cognitive process (i.e., cost-benefit analysis) when evaluating a referendum.

Practical Implications

This study has important implications for public park agencies' open space referendum campaigns, particularly social media communication strategies. First, the study showed that endorsement posts were effective in increasing awareness and engagement among both Facebook page followers and non-followers. Open space referenda campaign managers/committees should solicit and demonstrate support from local organizations and/or individuals that are highly regarded in the community. These endorsement posts can be as simple as a text post tagging the endorser organizations or a short endorsement video (e.g., 30 seconds) shot with a smartphone. The key to success in this endorsement strategy is identifying community organizations with a broad and good reputation or trustworthy local champions and "celebrities."

Second, communication strategies that facilitate a favorable cost-benefit analysis of the open space referenda in voters' minds, including *temporal framing* and *direct outcome*, were found compelling. A major concern about a tax referendum among voters is the increase in their property tax bill and, more importantly, what they get for the price they will pay. Spreading the cost over a longer timeframe (e.g., "A home valued at $100k would pay about $6 more per year, 50 cents per month!") can effectively reduce the sense of loss, and emphasizing the direct outcomes of a successful referendum (e.g., "improving and restoring failing infrastructure and aging facilities")

can help voters to envision the tangible benefits brought by the open space referenda. It is worth noting that the study found that emphasizing indirect benefits of the public lands for users (e.g., health and wellbeing, clean water) didn't work well. This suggests that voters likely need straightforward cost-benefit information about the referendum per se.

Third, in this case study, the ballot language of the referendum was complicated and confusing to the extent that voters would not know which box to check if they wanted to support the referendum. Since it is found that *Simplify Ballot Language* was an effective communication strategy, open space referendum campaigns that face a similar challenge should decipher the ballot language for voters in their communication. For instance, present a sample ballot and instruct voters how to vote if they are for or against the referendum.

Fourth, it was found that *demonstration* and *acknowledgment* strategies were receptive among Facebook page followers. Page followers are likely to be supporters and advocates for the agencies. They would like regular updates of campaign activities and progress (i.e., *Demonstration*) and acknowledgment posts that appreciate individuals' or organizations' efforts to support the campaign (i.e., *Acknowledgment/Appreciation/Recognition*). These communication strategies would be helpful if the campaign aims to maintain and strengthen the current supporter base.

Finally, campaign managers should use videos and images more in their communication, as this study found that Facebook users engaged more with short videos (less than 30 seconds) and scenic photos (e.g., fall foliage pictures taken from the park).

Limitations and Future Research

This study has some limitations, which can inform future research. The current study was a case study that looked at one type of referendum (i.e., property tax increase) in one county with a focus on one social media channel (i.e., Facebook), and thus, the generalizability of the findings may be limited. Future research can confirm or contrast the findings through a regional or national study with social media data from various referendum campaigns across the U.S. Future research can extend this work by looking at different types of open space referendum (e.g., bond referenda, referenda to establish special park districts) or different communication channels (e.g., Instagram, TikTok). While this study focused on the message, the other aspects of communication, particularly timing and audience segmentation, can be examined to draw insights into the optimal communication schedule and tailored messages to different audience segments. Moreover, among the seven types of message content identified from the literature, only two (i.e., *temporal reframing* and *direct outcome*) were found effective in this study. This suggests that more research is needed to advance our understanding of open space referenda campaign communication.

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