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**Protesting in the age of social media:
Information, opinion expression and activism in online networks**

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Abstract

This article contributes to existing studies on the political impact of digital media by proposing that citizens' use of social media, including Facebook, Twitter and YouTube, predict protest activity. I argue that adults who use social media participate in protests because interactive media are channels for learning political information, expressing political opinions and joining causes promoted by social movements. Analyses of a face-to-face survey of a representative cross-section of urban residents (n = 1,737) collected in Chile in 2011 establishes a positive, significant relationship between frequency of social media use and engagement in protest behavior. Furthermore, the analyses indicate that two key mechanisms—opinion expression and online activism—underlie the relationship between social media use and protest participation. These results confirm that political discussion and mobilizing information lead to participatory behaviors, and that social media can amplify traditional, offline forms of protesting.

Unpacking the use of social media for protest behavior:

The roles of information, opinion expression, and activism

The parallel diffusion of social media and social unrest around the world—the Arab Spring, the Occupy Wall Street movement and Spain’s *indignados*, to name a few—has raised the question about the role of social media in sparking dissent, protests and other forms of contentious politics. Similar to earlier debates on media effects, responses have coalesced around the skeptical camp—dismissive of social media as a tool for political change (e.g. Gladwell, 2010)—and the convinced camp, which views social media as central for modern political activism (e.g., Howard et al., 2011). As more research accumulates, however, it has become apparent that the issue of *whether* social media use is related to political action is misguided. There is plenty of evidence both in developed and developing countries suggesting that people who engage in civic and political activities—including protest behavior—are frequent users of social media (Bekkers, Beunders, Edwards, & Moody, 2011; Earl & Kimport, 2011; Pearce & Kendzior, 2012; Valenzuela, Arriagada, & Scherman, 2012; Yun & Chang, 2011). Rather, the more important issue is *how* and *under what conditions* these new digital platforms relate to citizen activism and protest politics.

Existing research has suggested several means by which social media can influence collective action, such as providing mobilizing information and news not available in other media, facilitating the coordination of demonstrations, allowing users to join political causes, and creating opportunities to exchange opinions with other people (Bennett & Segerberg, 2011; Chadwick & Howard, 2008; Gil de Zúñiga & Valenzuela, 2011). However, relatively few studies have tested empirically these mechanisms of social media influence, and most have sampled particular subgroups (e.g., participants in street demonstrations or young people) instead of the general adult population, or concentrate in one platform exclusively (e.g., Valenzuela, Arriagada, & Scherman, 2012). Furthermore, to date, most data on social

media and protest behavior have been collected in either mature democracies or authoritarian regimes, leaving aside the special case of third wave democracies—i.e., countries that democratized between the 1970s and 1990s (Huntington, 1991).

To fill in these gaps, this article examines mechanisms by which using social media, including Facebook, Twitter, YouTube and Google Plus, translates into increased protest activity among the adult population. More specifically, the study examines three explanations for this relationship—information (social media as a news source), expression (social media as a space for expressing political opinions) and activism (social media as a venue for joining causes and finding mobilizing information). The ultimate goal is to advance the scholarly debate on the use of social media for protest politics by studying individual-level mechanisms by which interactive digital platforms can lead to political action. To do so, it uses survey data collected among the adult urban population in Chile in the winter of 2011, a period filled with demonstrations demanding changes in education and energy policies.

Social Media and Protest Activity

Research on political protest and social media—including social network sites, micro-blogs, video-sharing sites, and other forms of user-generated digital content—is relatively recent, at least when compared to the vast existing literature on general Internet use, social movements and political action (e.g., Bimber, Flanagin, & Stohl, 2005; Hill & Hughes, 1998; McCaughey & Ayers, 2003; van de Donk, Loader, Nixon, & Rucht, 2004). However, since Facebook became an open service in 2006 and the so-called “Twitter revolutions” of 2009 in Moldova and Iran, a flurry of studies have tried to map out the effects of using social media on fueling protests and other forms of elite-challenging political action.

In general, studies that have taken an individual-level approach tend to find a positive relationship between frequency of social media use and protest behavior, in line with existing research on the digital media-citizen participation link (Gil de Zúñiga, Jung, & Valenzuela,

2012; Park, Kee, & Valenzuela, 2009; Rojas & Puig-i-Abril, 2009; Valenzuela, Park & Kee, 2009; Zhang, Johnson, Seltzer, & Bichard, 2010). A variety of explanations have been put forth to understand the existence of this positive association. By enacting individuals' offline networks online, social media can facilitate access to a large number of contacts, thereby enabling social movements to reach critical mass (Lovejoy & Saxton, 2012). Social media can also promote personal and group identity construction—key antecedents of political behavior (Dalton, Sickle, & Weldon, 2009)—by allowing multiple channels for interpersonal feedback, peer acceptance, and reinforcement of group norms (Papacharissi, 2010). These sites can operate as information hubs, too (Gil de Zúñiga, Jung, & Valenzuela, 2012). Facebook users, for instance, have a “News Feed” to monitor their personal contacts and stay updated about what is going on with them. On the other hand, these services allow users to create and to join groups based around common interests. Thus, those who join social movements and political groups online can receive mobilizing information that they may not obtain elsewhere and thus encounter more opportunities to engage in political activities (Yamamoto, 2006). At the same time, increased participation in online social networks typically helps to build trusting relationships among members (Gilbert & Karahalios, 2009), further enhancing the potential of social media to increase their engagement in protest and other political behaviors. Finding a basis for conversation and social communication, connecting with family, friends and society, and gaining insight into the circumstances of others—all these factors can instill interest in collective issues (Bennett & Segerberg, 2011).

For all the reasons enumerated so far, it is expected that there should be a relationship between overall frequency of social media use and protest behavior. In hypothesis form:

H1. Frequency of social media use will be positively related to protest behavior.

This hypothesis, however, is more confirmatory than exploratory, as it does not specify why the relationship between using social media and participating in protests exists.

Furthermore, some authors (e.g., Boulianne, 2009) have questioned the size and regularity of the relationship between digital media use and political participation—criticisms that may well apply to social media use and protest activity. These issues highlight the need for further theoretical development explaining why using social media can cause protest behavior. In what follows, three possible mediating mechanisms will be discussed: (a) social media as a source for news, (b) social media as a space for political expression, and (c) social media as a tool for joining causes and finding mobilizing information. These mechanisms by no means constitute an exhaustive list of explanations for the relationship between using online social platforms and protesting. However, based on prior research, they have empirical currency and represent a solid point of departure.

Using Social Media for News

The first explanation for the social media-protest link harkens back to classic research on uses and gratifications. According to Katz and Gurevitch's (1974) typology, individuals use media for surveillance, identity construction, social relationships and entertainment. Existing research shows that using media for surveillance and news acquisition is positively associated with various forms of political activity, while patterns of use related to private entertainment and diversion have a negative or muted effect (Shah, Rojas, & Cho, 2009). Thus, so long as users expose themselves to hard news and current affairs through social media platforms, the participatory effects of frequent use of social media should be similar to those found for traditional news media.

The mobilizing potential of news use takes many forms. Past research has found that frequent news consumption enables political participation by increasing users' knowledge of public issues, political causes and social movements (David, 2009; de Vreese & Boomgaarden, 2006; Eveland, Hayes, Shah, & Kwak, 2005). Furthermore, the traditionally negative press coverage of protest movements—which can spill to social media as the most

popular news outlets in social network sites tend to be traditional mainstream outlets—does not seem to offset the individuals' perceptions of the utility of protests (McLeod, 1995).

Previous research has also found that news use is a major source for interpersonal discussions among people's networks, offering additional venues for learning, reflection and motivation to participate (de Boer & Velthuisen, 2001; Eveland, 2004).

Certainly, most of the content available in Facebook, Twitter and other social media is not related to public affairs, just as most of the content in television is for entertainment and not news (Zhao et al., 2011). However, as social media are incorporated into daily life, it is expected that the content available diversifies as well. Put another way, individuals surely use social media for personal identity construction, social relationships or entertainment; however, there is no reason to think that people who are motivated to follow public affairs will not use their accounts in, say, Facebook or Google Plus to consume hard news and public-oriented information (Gil de Zúñiga, Jung, & Valenzuela, 2012). In addition, social media can be used purposefully to search for news (e.g., following BBC News on Twitter) as well as a source for incidental exposure to news (e.g., browsing the profile of a friend on Facebook and stumbling upon a link to a BBC News story). In either case, learning can take place, increasing the probability for political action.

Using Social Media for Political Opinion Expression

The second explanation for the observed relationship between social media use and political protest refers to the expression of political opinion. This explanation suggests that exercising one's political voice on social media involves more information processing and depth of reasoning, which have been found to be conducive to political engagement (Cho, Shah, McLeod, McLeod, & Scholl, 2009). As Pingree (2007) noted, "expression, not reception, may be the first step toward better citizenship. Its mere expectation can motivate

(...) elaboration of media messages, and the act of message composition is often much more effective at improving understanding than any act of reception” (p. 447).

In addition to cognitive elaboration, opinion expression can be conducive to political protest and other forms of political activity by being a precursor of informal political discussion. Since the early work by Lazarsfeld and colleagues (1944), research has found that when people talk about public affairs, they are more likely to mobilize and engage in political activities. This is because conversations involve not only exchanges of information but also interpretive frameworks that help to process that information. By allowing people to grapple with ideas, elaborate arguments and reflect upon the information acquired, conversations are a rich form of political information (Huckfeldt & Sprague, 1995; Schmitt-Beck, 2008). Thus, political discussions can lower the costs of political learning and motivate individuals to participate and join social or political causes more often. In this context, opinion expression through social media is more likely to trigger online political talk, which research has found to be similarly conducive to political engagement than interpersonal discussion (Gil de Zúñiga & Valenzuela, 2011; Shah, Cho, Eveland, & Kwak, 2005; Shah et al., 2007; Valenzuela, Kim, & Gil de Zúñiga, 2012). The textual nature of social media may result in communications that are more goal-oriented than face-to-face discussions (Berger, 2009). If this is the case, then discussions on social media may be quite efficient at mobilizing individuals to participate.

The fact that several researchers consider political expression a form of political participation, rather than an antecedent of it, further bolsters the claim that there is a close link between opinion expression and protest behavior. This explains, for instance, that traditional measures of political participation in the U.S., such as those employed by the American National Election Studies (ANES), include expressive actions such as displaying political bumper stickers or yard signs. Rojas and Puig-i-Abril (2009) argued that opinion

expression, particularly in an online context, is particularly relevant in emerging democracies where more institutional forms of participation are not firmly entrenched. On the other hand, certain social media, such as Twitter, enable users to weave their private and political life together more efficiently by making public users' personal political expressions. Thus, social media may provide an ideal setting for collective action, which Bimber, Flanagin and Stohl (2005) defined precisely as a "set of communication processes involving the crossing of boundaries between private and public life" (p. 367).

Using Social Media for Joining Causes and Mobilizing Information

The third explanation for the relationship between social media use and protest behavior adopts an instrumental view of the political effects of social media (Xenos & Moy, 2007). It posits that these platforms enable otherwise disengaged users to join political and social causes, increasing the likelihood of being further mobilized both online and offline. This explanation focuses on the possibility of finding mobilizing information on social media platforms, either by direct exposure to messages and profiles of social movements, NGOs and other interest groups, or indirectly through incidental exposure. For various forms of protest behavior, such as where to go to attend a street demonstration, knowledge of mobilizing information is essential.

Lemert (1981) argued that mobilizing information comes in three forms: (a) identificational (names and contact information that people or groups citizens need to know to engage in political action); (b) locational (time and place of a political or protest activity); and (c) tactical (explicit and implicit instructions for how citizens can get involved). Social media are an ideal venue for encountering all three types of mobilizing information, at least compared to other types of media. The mainstream news media, for instance, have limited capacity to transmit mobilizing information as most journalistic operations perceive that this type of content violates norms of neutrality (Hoffman, 2006). Websites specialized in

mobilizing citizens, on the other hand, suffer from selectivity bias, as mostly those who have the psychological predisposition or motivation to seek out those sites will actually find them (Wojcieszak & Mutz, 2009; Yamamoto, 2006). Social media, on the other hand, are free from norms of objectivity and were built around personal connections, not overtly political purposes.

However, it has been argued that the spillover from joining causes on social media onto protest behavior is more a possibility than a reality. Morozov (2009) has warned about “slacktivism,” activities that have no effect on real-life political outcomes but only increase users’ sense of personal satisfaction. The Causes application on Facebook was, perhaps, the best example of this virtual type of activism. But just as it is safe to assume that most people who follow Greenpeace on Twitter or Facebook do not participate in offline demonstrations organized by it, it is safe to assume that Greenpeace’s social media presence increases the odds of disseminating mobilizing information to a larger share of users. And this information is key to offline participation.

Considering the three theoretical explanations for the expected relationship between frequency of social media use and protest behavior discussed so far, the second hypothesis to be examined states:

H2. Using social media for news consumption, opinion expression and activism mediates the relationship between frequency of social media use and protest behavior.

Method

The data reported in this study were collected in Chile, a country that in 2011 experienced widespread demonstrations not seen since the street protests against military rule during the 1980s. The outbreak of social unrest caught off-guard both the local political establishment as well as international observers, who so far had regarded Chile as the poster child for successful democratic rule and strong economic growth in Latin America (Mainwaring & Scully, 2008; Teichman, 2010).

Although the causes of the Chilean “winter of discontent” are debatable (see, e.g., Sehnbruch & Donoso, 2011), the demonstrations were unusual on several accounts. First, they started amidst strong economic performance, with unemployment and growth rates at their best in almost a decade. Second, the protests targeted very different social issues, namely, the environment, education policy, and the pace of reconstruction after the 2010 earthquake. Consequently, they brought together—for the first time since the 1980s—a variety of interest groups, including high school and college students, their parents, teachers, labor unions, and environmentalists. Third, the protests were completely autonomous from the two main political coalitions that have ruled Chile in the past 20 years, the center-left Concertación and the conservative Alianza. To the government’s dismay, the scattered episodes of violence did not alter the strong popular support for the demonstrators, as opinion polls revealed that more than two-thirds of citizens approved of them. And, importantly for the purposes of the current study, there was much discussion in the press about the role of social media in fueling unrest, especially after the government’s announcement in June 2011 that it would start tracking Facebook and Twitter “to listen to what citizens have to say” (Matamoros, 2011, para. 5).

The discussion about the role of social media in driving social unrest in Chile is justified if, anything, because of the sheer popularity of social network sites and other Web 2.0 platforms among the local population. While nearly 60% of the population are active Internet users, more than 90% of users have accounts in social platforms, making Chile one of the countries with the highest levels of social media penetration in the world (comScore, 2011). In addition, both the student and environmental movements employed social media strategies—with some degrees of success (Manning, 2011). After the “Patagonia Without Dams!” campaign against HidroAysén—an energy development to build seven hydroelectric dams in Chilean Patagonia—the project was put on standby. And three months of unrelenting

demonstrations in Santiago and other cities forced government to launch a full-blown educational reform plan with more than \$4 billion in fresh public funds.

Sample

The study relied on a representative survey conducted in Chile's three largest urban regions (Gran Santiago, Gran Valparaíso and Gran Concepción), concentrating 62.5% of the country's adult population. The survey was sponsored by the School of Journalism at Universidad Diego Portales (UDP) and fielded by Feedback, a professional polling firm, between August 19 and September 6, 2011, in the midst of the three largest student protests that took place in Santiago that year. The sample was a multistage area probability sample stratified by geographical region. Within each region, the sample was allocated proportionally by urban communes, and within each commune, the sample was further distributed proportionally by number of blocks. In the last stage, one eligible adult from each household selected was randomly drawn for a face-to-face interview. Because the survey is part of a larger research project that studies youth participation in Chile, to the initial 1,000 completed interviews, an oversample of 737 adults aged 18-29 was included in the survey design, for a total sample size of 1,737 respondents. To reduce biased estimates due to the oversampling of young adults, prior to analysis the data was weighted to match national parameters for age as well as for gender and region using 2011 population estimates. The simple response rate was 80%. A full copy of the questionnaire, which was developed by the author with a group of researchers from UDP, is available in Spanish at www.prensafcl.udp.cl/encuestaperiodismo2011.pdf.

Variables

Protest behavior. As opposed to more institutionalized forms of political participation, such as voting and electoral campaign activities, protest is more diverse, less regular and, consequently, harder to measure adequately. It can range from signing petitions to boycotts, including unofficial strikes and even violent activities. For this reason, studies of protest based on surveys usually order protest activities along a continuum with several thresholds of legality (see Dalton, Sickle, & Weldon, 2009). However, illegal protest activities are infrequent in Chile, consistent with trends of political action in other democratic societies (Inglehart & Catterberg, 2002). Therefore, protest behavior was measured by asking participation in activities representing a transition between conventional and unconventional modes of political behavior, as well as direct action techniques, all of which are legal. Specifically, respondents were asked whether they had engaged in the following activities in the past 12 months (coded 0 for not engaging, and 1 for engaging): (a) attended public demonstrations; (b) attended political forums and debates; (c) signed a petition to authorities; (d) participated in meetings with authorities; and (e) sent letters to the media. Subsequently, a protest index was created by counting the number of affirmative responses to each item. The analysis, however, will also consider the role of social media for each protest activity separately. As Dylko (2010) noted, a cumulative index taps the breadth of an individual's participation but might misrepresent the level or intensity of participation. Hence the importance of employing both disaggregated and aggregated measures of protest activity.

Overall social media use. Survey participants were asked how often they used each of the following platforms: Facebook, Twitter, Google Plus and YouTube. Response choices were: (a) every day, more than once a day; (b) every day, once a day; (c) at least three times a week; (d) once a week; (e) two or three times a month; (f) once a month or less; and (g) never. The frequency of use of each social media platform was combined into an additive

scale of general social media use, reversed so that higher values reflected higher frequency of use (Cronbach's $\alpha = .70$).

Social media for news. To measure the use of social media as a channel for hard news, two sets of questions were used. First, respondents were asked in open-ended fashion how many hours on a typical weekday they use social network sites for watching, reading or listening to news. A similar question was used to capture respondents' use of social media for consuming news on a typical weekend day. Because of the skewed distribution of these measures, scores greater than five were recoded as five. Then, to create a weekly measure, the score for weekday use was multiplied by five and the score for weekend use by two. These adjusted scores were then summed.

Social media for opinion expression. To measure political expression through social media, respondents were asked whether on the past 12 months they had used social network sites for expressing an opinion on political issues and/or public affairs. In addition, they were asked whether they had used social media to spread information about the HidroAysén dam project and the student movement. These three items were then added into a single scale (Cronbach's $\alpha = .83$).

Social media for activism. The use of online social platforms for participating in political and civic causes was a scale (Cronbach's $\alpha = .79$) of the sum of "yes" responses to questions asking respondents whether they had (a) joined political, public or citizen-led causes on social network sites in the last 12 month; (b) joined groups or pages in Facebook related to the HidroAysén project; and (c) joined groups or pages in Facebook related to the student movement.

Grievances. Dissatisfaction with government has long been considered an important ingredient of social unrest and protest activity (Barnes & Kaase, 1979), thus, several indicators of political and economic grievances were included in the analysis. Government

approval was measured as respondents' level of approval of the president using three categories: approve, neither approve or disapprove, and disapprove. The affective component of political grievances was gauged with feelings of political anger, which previous research has found are most directly related to political action (Valentino, Brader, Groenendyk, Gregorowicz, & Hutchings, 2011). Specifically, respondents were asked to rate on a 5-point scale (ranging from "never" to "frequently") how often the government has made them feel "angry," "outraged," and "frustrated." Responses were combined into an additive scale (Cronbach's $\alpha = .83$). Using a 5-point response scale, economic outlook was gauged with level of agreement with the statement: "Currently I enjoy a more comfortable life than when I was growing up." Government responsiveness was measured with four items about how much the respondent believes his or her actions influence the decisions made by the president, members of Congress (senators and deputies separately) and city mayors. Responses were measured on a 10-point scale ranging from "nothing" to "a lot" and were combined into an additive scale (Cronbach's $\alpha = .92$).

Values. The influence of political and cultural values on protest behavior was operationalized using two variables. For ideology, respondents were invited to place themselves on a 10-point scale ranging from left-wing to right-wing. Subsequently, a dummy variable identifying leftist respondents (i.e., with a score of four or less) was created. Postmaterialist values was assessed using Inglehart's 12-item index (Inglehart, 1990, pp. 74-75), in which three separate batteries of questions are asked, each containing two materialist and two postmaterialist items. Subsequently, responses were combined into an index, with postmaterialist responses coded higher.

Resources. Individuals' material, psychological and social resources have been shown to be strongly associated with protest behavior (Verba, Schlozman, & Brady, 1995). Oftentimes, members of dominant groups (e.g., college-educated males) are more likely to

participate in political and protest activities because they have more time and have attained greater communicational and organizational abilities. Individuals are more likely to be recruited into social movements if they are members of groups such as student groups, unions, NGOs and professional organizations. Furthermore, organizations can provide an institutional context supportive of political action. Particularly in the context of Chile, street demonstrations are more common among younger citizens, especially students. These different sets of political resources were included in the current study as statistical controls. The respondent's gender was dummy-coded, with female coded higher. Age was measured by a 14-category ordinal-level measure ranging from 18 to 19 years old to 80 years old or more. Education was operationalized as the highest level of formal education completed using a seven-category item, ranging from less than elementary school to graduate school. Membership in civic groups was a counter tapping involvement in activities of neighborhood associations, student groups, and labor unions.

News media use. Consumption of hard news, particularly newspaper and online news, has been found to be a consistent predictor of various forms of political participation (Norris, 2000; Shah, Cho, Eveland, & Kwak, 2005). To measure the level of exposure to political information and public affairs, respondents were asked how many hours on a typical weekday they use four different types of media: television news (both network and cable), radio news, newspapers (both print and online editions), and online-only outlets, such as web portals. Answers were coded in open-ended fashion. A similar set of questions measured respondents' news media use on a typical weekend day. To make these measures comparable to social media usage for news, scores greater than five were recoded as five. Subsequently, scores for weekday use were multiplied by five and scores for weekend use by two and summed into an index of weekly news on social media.

Offline political discussion. Face-to-face conversations about politics and public affairs have been found to be closely related to political participation, including protest behavior (Jacobs, Cook, & Delli Carpini, 2009). Thus, an additive scale (Cronbach's $\alpha = .79$) of offline political discussion was built from separate items gauging frequency of political talk with family members, neighbors, and friends.

To facilitate comparisons across the different response scales employed, all variables (with the exception of the protest index) were normalized to a 0 to 1 range, that is, with a value of 0 for the minimum and 1 for the maximum. Descriptive statistics are available for consultation in the Appendix.

Statistical Analysis

For testing H1 with individual protest acts, a series of logistic regression models were estimated in which the variables representing grievances, values, resources, news media use and political discussion were entered simultaneously with the overall social media use variable. When considering the aggregated index of protest behavior, both Poisson and OLS regression models were estimated. Poisson regression was chosen because it is the appropriate statistical analysis tool for count outcomes and was found to outperform a negative binomial regression (i.e., the overdispersion of the protest index was insignificant) (Long, 1997). OLS regression was reported because it has been shown to minimize Type I errors when dealing with count dependent variables (Sturman, 1999, as cited in Dylko, 2010). Also, OLS is the most common type of regression used by previous research on interactive technologies and political participation. All these estimations were conducted using the PASW Statistics 18 software.

For H2, a path model relating social media use variables with the protest behavior index was estimated with the Mplus 6.12 software (Muthén & Muthén, 1998-2010). Before fitting the model to the data, a residualized covariance matrix was created by regressing all

social media use and protest measures on the control variables, including demographics. This means that any variance accounted for by the tested model should be interpreted as one being above and beyond the variance already explained by the set of control variables.

Results

Predictors of Social Media Use

Before the formal tests of the hypotheses, it was important to assess the assumption regarding recent increases in the prevalence of social media use in Chile. An OLS regression model predicting frequency of social media use indicated that online news use, youth, and education were major predictors (see Table 1). In other words, social media use was not random among the Chilean adult urban population. However, there was little evidence of overlap between those with political grievances, who are news consumers, and support values associated with protest behavior and those who use social media more often. This finding suggests that the study's data allow a meaningful comparison between social media users who are more likely to protest and those who happen to use social media but are less inclined to engage in elite-challenging political behavior.

[INSERT TABLE 1]

Social Media Use and Protest Behavior

The first hypothesis predicted that there was a positive relationship between frequency of social media use and protest behavior. The coefficient estimates shown in Table 2 offered support for this hypothesis. In four of the five protest activities considered, social media use was a statistically significant predictor.

[INSERT TABLE 2]

Holding other variables constant, frequent users of social media were nearly 11 times more likely to participate in street demonstrations than nonusers. Similarly, heavy users of social media were between seven and nine times more likely to express their demands to

authorities and in the mass media, respectively. The predicted odds of attending citizen-led forums and political debates for frequent social media users were three times the odds for light or nonusers. Only the case of petitioning social media use was not a statistically significant predictor.

To facilitate the substantive interpretation of these relationships for the average respondent, Figure 1 illustrates the magnitude of the associations between social media use and each protest activity holding all control variables to their sample means of modes. As the frequency of using Facebook, Twitter, YouTube and Google Plus increases, the likelihood of engaging in protest acts increases. For example, the probability of attending a demonstration increases from a mere 4% to 33% across the range of social media use. The likelihood of contacting media organizations increases substantially, from 3% for the nonuser to 23% for the most heavy users of social media. And the probability of meeting with authorities to discuss political grievances also increases significantly, from 3% to 18% across the range of frequency of social media use.

[INSERT FIGURE 1]

It does not come as a surprise, then, that when considering the cumulative index of protest, social media use was found to be a positive, significant predictor variable—a consistent finding across Poisson and OLS estimations (see Table 2). Several of the control variables were found to be predictive of protest activities too. In line with existing research (Verba, Schlozman, & Brady, 1995), resources were key predictors of protest behavior, particularly education and membership in civic groups. In general, grievances played a minor role in motivating protest behavior, but postmaterialism and ideology were important predictors of joining street demonstrations and attending political forums (for further discussion of this finding, see Inglehart, 1990). Individuals who spent more time reading online news were more likely to engage in all five protest activities considered in the study,

in line with the overall trend of online news media being a predictor of political action (Boulianne, 2009).

Testing Mediating Variables

Turning to H2, Figure 2 presents the estimates of the path model relating overall social media use, specific uses of social media for news consumption, expressing opinions and joining causes, and protest participation, after accounting for the influence of demographics and other control variables. Overall, the results show an excellent fit for the proposed model, $\chi^2(1) = 3.538, p = .06$ (root mean square error of approximation [RMSEA] = .045; comparative fit index [CFI] = .999; Tucker–Lewis index [TLI] = .986; standardized root mean square residual [SRMR] = .011.¹ This result suggests that the more specific uses of social media help to explain the overall relationship between social media use and protest behavior described earlier.

[INSERT FIGURE 2]

As expected, more frequent use of social media platforms was predictive of more frequent use of social media for information, opinion expression and joining social causes. In turn, opinion expression and joining social causes through social media platforms were positively, and significantly, associated with participating in protest activities. Although social media for news was not related to protest behavior once all other variables were taken into account, the three social media activities included in the model fully mediated the direct effects of overall social media use on protest.

This pattern of findings is clearer when deconstructing the total effects of overall social media use on protest participation by estimating direct and indirect effects separately. As shown in Table 3, general use of social media influenced protest via either opinion expression or joining causes, not through news consumption on social platforms. Thus, the evidence provided qualified support for H2.

Discussion

The purpose of this study was to confirm the individual-level relationship between frequency of social media use and protest participation and to test possible intervening processes that explain the existence of this relationship. Three explanations were examined: information (social media as a news source), opinion expression (social media as a space for expressing political opinions) and activism (social media as a venue for finding mobilizing information and joining causes). The data for the study came from a survey of a random sample of adults living in urban areas in Chile during the contentious winter of 2011, when street demonstrations about education and environmental issues stunned the local political elite.

The statistical analyses indicate that using social media frequently is positively and significantly related to protest, even after taking into account other known sources of this type of political action (i.e., grievances, values, resources, and news media use). The strength of this relationship is comparable to the influence of education and participation in civic groups on triggering elite-challenging political behavior. However, social media does not seem to be equally important for all types of protest activities considered. It was more strongly predictive of attending street demonstrations and contacting news media, and was not significantly related to petitioning. Thus, social media use appears as a significant tool for certain forms of activism but by no means should be interpreted as having an equal influence on all forms of protest actions available to citizens. At the same time, these findings are in line with the notion that social media platforms are a tool—rather than a cause—for protest and social unrest.

The study moves beyond examining direct relationships between social media use and tests the possible activities that users perform on these sites that would explain its participatory potential. The analysis indicates that using social media for expressing opinions

and joining causes, but not news consumption, are important mediating mechanisms. In this sense, the results are consistent with previous work showing that political discussion and mobilizing information can lead to participatory behaviors. These findings also indicate that social media allow users to interweave the private world of family, friends and personal life with the public sphere of politics, social movements and protests (Papacharissi, 2009).

Furthermore, the model presented in Figure 2 also underscores that social media can fulfill a variety of communicatory needs, including surveillance and deliberative practices. Thus, the argument here moves away from any suspicion of technological determinism.

The null finding for the information explanation deserves further examination. While frequency of social media use was closely related to following news on these platforms, the latter was not a significant predictor of protest behavior. One reason for this may be the redundancy of hard news content in social media, content that is still supplied by mainstream media organizations. Thus, by controlling for news use in traditional platforms, the variance of protest activity explained by social media for news became insignificant. A post-hoc analysis was conducted to test this possibility by rerunning the path model without controls for news use in television, newspaper, radio and online news. Although the size of the path coefficient of social media for news was larger, it still did not reach conventional levels of statistical significance. This result is further confirmed by the small correlation between using social media for news and the different measures of news media use. Thus, future research is needed to further elucidate the matter.

What do these results mean for social movement organizing, political elites and the quality of democracy? This study suggests that social media are not so much creating new forms of protest but amplifying traditional forms of protest, such as street demonstrations. In other words, social movements seeking to exert changes in society need to understand that social network sites and other Web 2.0 platforms can aid offline forms of citizen

participation, rather than the two forms (online and offline) being separate, parallel worlds of activism. Governments and political parties, in turn, must take into account the discussions, information and other types of content that is publicly available in social media, and use them as additional sources of knowledge about public opinion sentiment. For the quality of democracy, the positive links between social media use and protest behavior represents both an opportunity and a challenge. On the one hand, social media seem to reduce the costs of collective action and facilitate the creation of critical mass, which enables citizens to more easily organize themselves and voice their concerns publicly. On the other, there is the risk of furthering inequality if the population of social media users is skewed towards the technologically savvy and those with high human, social, and economic capital. In countries like Chile, with relevant gaps in digital access and use, this risk may be a cause of concern, as the analysis reported in Table 1 clearly indicates.

Despite the new insights brought by this study, the analysis has several limitations. By employing survey data, it is constrained to self-reports of protest activity and social media use, which may yield inaccurate measures due to social desirability bias. Another limitation is the cross-sectional nature of the data employed, which is not well-suited for testing causal-effects relationships and cannot properly address issues of endogeneity between explanatory and outcome variables. Although this possibility was addressed somewhat by employing a host of control variables, future research with panel data may be needed to sort out this quandary. A third limitation is the potential bleed over between the different social media activities considered. For instance, is sharing a political video on Facebook a form of information, opinion expression or activism? If the video contains mobilizing information, it would fall under social media use for activism under the current study's definition. On the other hand, commenting on the video would be an act of opinion expression. And for those unaware of the issues discussed in the video, it may well be a source of news acquisition.

Future research, then, needs to address more thoroughly these conceptual distinctions, following the example of Bimber, Flanagin and Stohl (2005). Relatedly, protest behavior is a slippery concept. The current study adopted Dalton, Dalton, Sickle, and Weldon's (2009) approach, which stems from the classic work on protest behavior by Barnes and Kaase (1979), but it is possible that employing another conceptualization and operationalization of protest participation yields different results.

Limitations notwithstanding, this study provides an initial foundation for research on the role of social media and protest behavior in emerging democracies where protest has been successful at achieving policy changes. The three explanations for the social media-protest relationship thus advanced could well be further elaborated in separate studies, with more detailed measures, in an effort to produce more consistent theory on the political impact of social media. Future research will also elaborate on the findings reported in this article by replicating the current analysis in other countries and political contexts, testing additional mediating mechanisms, and employing more fine-grained measures of protest behavior.

Table 1

OLS Regression Model Predicting Social Media Use

	OLS b
Anger	.04 (.06)
Economic outlook	.03* (.02)
Government job approval	-.01 (.01)
Government responsiveness	-.04* (.02)
Postmaterialism	.02 (.02)
Left-wing ideology	-.01 (.01)
Female	-.01 (.01)
Education	.20*** (.02)
Civic group membership	.06*** (.02)
Age	-.28*** (.02)
TV news	-.05 (.04)
Radio news	-.05* (.03)
Newspaper	-.05 (.04)
Online news	.81*** (.05)
Offline political discussion	.05** (.02)
Total R ²	.45
<i>N</i>	1,466

Note. Cell entries are unstandardized OLS regression coefficients (b) with standard errors in parentheses.

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Table 2

Logistic, Poisson and OLS Regression Models Predicting Protest Behavior

	Attending demonstrations	Petitioning authorities	Meeting authorities	Contacting media	Attending forums/debates	Protest behavior index	
	Odds Ratios					Pssn b	OLS b
Social media use	10.84*** (.44)	1.96 (.44)	6.87*** (.53)	8.60*** (.50)	3.05* (.48)	1.17*** (.18)	.91*** (.12)
Anger	3.88 (1.06)	1.69 (1.20)	.32 (1.47)	28.59** (1.27)	.31 (1.39)	.67 (.51)	.41 (.24)
Economic outlook	.58 (.31)	.71 (.33)	1.18 (.40)	1.03 (.38)	.53 (.34)	-.21 (.13)	-.20** (.08)
Gov't job approval	.56 (.33)	.48* (.34)	.66 (.37)	2.45** (.30)	1.93 (.34)	.08 (.15)	-.05 (.06)
Gov't responsiveness	.72 (.33)	3.61*** (.30)	1.42 (.37)	.65 (.39)	1.11 (.36)	-.02 (.14)	.19** (.07)
Postmaterialism	19.93*** (.44)	2.39* (.44)	0.43 (.53)	.41 (.51)	2.87* (.50)	.69*** (.19)	.32*** (.10)
Left-wing ideology	2.38*** (.19)	1.40 (.20)	1.69* (.23)	1.12 (.24)	3.01*** (.23)	.45*** (.09)	.23*** (.05)
Female	1.23 (.18)	.64* (.19)	1.33 (.23)	.82 (.22)	.69 (.22)	-.13 (.08)	-.07 (.04)
Education	2.41 (.46)	4.53** (.49)	2.97* (.54)	8.43*** (.56)	3.37* (.54)	1.06*** (.22)	.38*** (.10)
Civic group member	10.55*** (.34)	1.47 (.35)	31.72*** (.40)	3.24** (.41)	5.93*** (.38)	1.15*** (.15)	.98*** (.09)
Age	.15*** (.46)	.97 (.45)	2.59 (.51)	4.44** (.49)	.72 (.49)	-.26 (.21)	.20* (.09)
TV news	.15** (.71)	1.32 (.69)	1.52 (.73)	.08* (.98)	.44 (.78)	-.55 (.33)	-.35* (.16)
Radio news	.84 (.56)	.84 (.53)	1.54 (.59)	.66 (.63)	2.57 (.57)	.02 (.23)	-.06 (.11)
Newspaper	.48 (.78)	.38 (.75)	5.27* (.76)	3.71 (.80)	.03*** (1.02)	-.39 (.36)	-.14 (.15)
Online news	15.36** (.95)	74.38*** (.98)	0.06* (1.34)	58.80*** (.96)	27.02*** (1.03)	1.94*** (.37)	1.82*** (.26)
Offline political discussion	1.66 (.36)	5.74*** (.40)	1.92 (.44)	.53 (.43)	3.72** (.43)	.68*** (.18)	.18* (.07)
Total R ²	.48	.31	.27	.23	.30	.48	.38
Weighted N	1,466	1,466	1,466	1,466	1,464	1,464	1,464

Note. Cell entries are logistic regression odds ratios for all individual protest acts, Poisson regression coefficients for Pssn b, and unstandardized OLS regression coefficients for OLS b. Numbers in parentheses are standard errors. Nagelkerke R² is reported for all logistic models, McFadden's pseudo R² is reported for the Poisson regression model, and total R² is reported for the OLS regression model. * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$

Table 3

Indirect Effects of Social Media Use on Protest Behavior

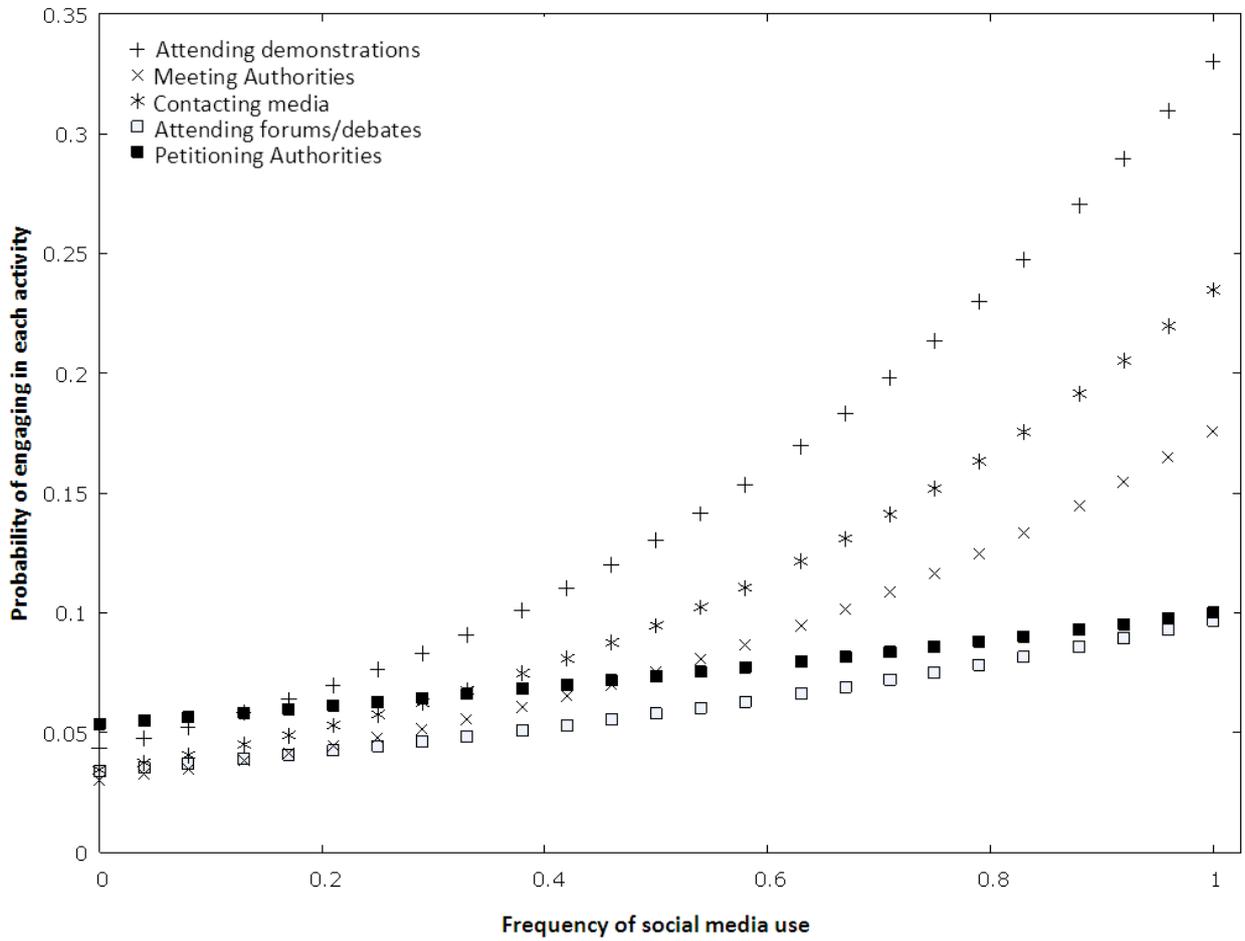
Indirect Effects	b
Social media use → social media for news → protest behavior	.05 (.06)
Social media use → social media use for opinion expression → protest behavior	.51*** (.09)
Social media use → social media use for activism → protest behavior	.17* (.07)
Indirect effects (Social media use → Protest behavior)	.73*** (.07)

Notes: Cell entries are unstandardized path coefficients with standard errors in parentheses.

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

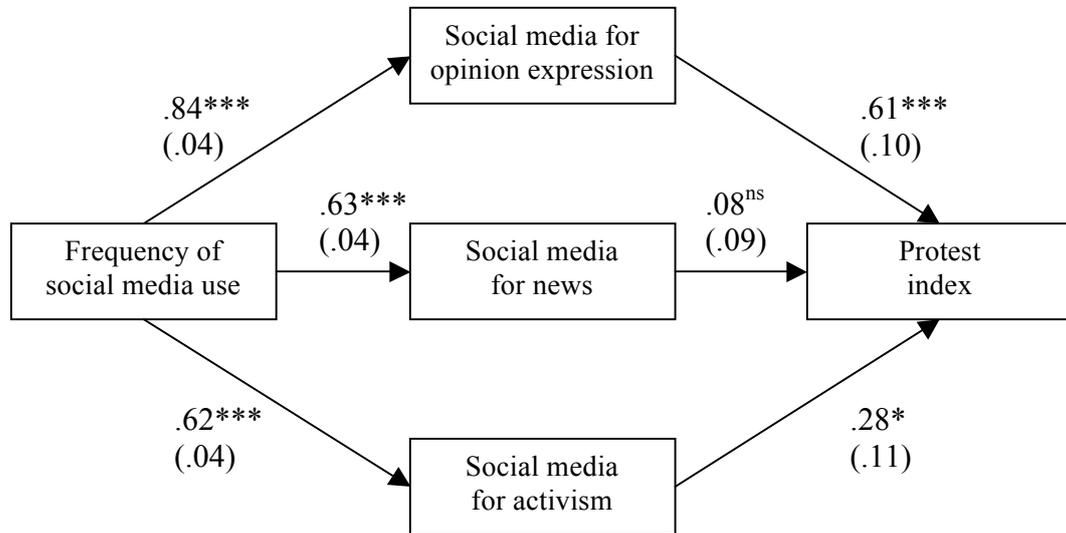
Figure 1

Social Media Use and Protest Behavior



Note. Lines plot predicted probabilities calculated from the estimates in Table 2, setting all control variables to their sample means.

Figure 2

Path Model of Protest Behavior

Note. Weighted $N = 1,260$. Entries are unstandardized path coefficients (γ and β) with standard errors in parentheses. The effects of control variables on endogenous and exogenous variables have been residualized. The correlation coefficients (ψ) between mediating variables were omitted from the figure for ease of presentation. Fit statistics: $\chi^2 = 3.538$, $df = 1$, $p = .06$; RMSEA = .045; CFI = .999; TLI = .986; SRMR = .011.

* $p < .05$; ** $p < .01$; *** $p < .001$; ns = not significant

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Appendix

Descriptive Statistics

	<i>M</i>	<i>SD</i>	Minimum	Maximum	Valid Cases
Attending demonstrations	0.16	0.37	0.00	1.00	1,737
Petitioning authorities	0.10	0.31	0.00	1.00	1,737
Meeting authorities	0.07	0.26	0.00	1.00	1,737
Contacting media	0.07	0.26	0.00	1.00	1,737
Attending forums/debates	0.08	0.28	0.00	1.00	1,735
Protest index	0.49	0.91	0.00	5.00	1,735
Social media use	0.18	0.23	0.00	1.00	1,737
Social media for news	0.26	0.32	0.00	1.00	1,587
Social media use for opinion expression	0.25	0.37	0.00	1.00	1,510
Social media use for activism	0.16	0.31	0.00	1.00	1,737
Economic outlook	0.85	0.27	0.00	1.00	1,729
Government job approval	0.24	0.39	0.00	1.00	1,737
Anger	0.13	0.09	0.00	1.00	1,700
Government responsiveness	0.23	0.28	0.00	1.00	1,737
Postmaterialism	0.46	0.23	0.00	1.00	1,671
Left-wing ideology	0.29	0.45	0.00	1.00	1,737
Female	0.52	0.50	0.00	1.00	1,737
Education	0.47	0.26	0.00	1.00	1,732
Civic group member	0.18	0.25	0.00	1.00	1,734
Age	0.40	0.26	0.00	1.00	1,737
TV news	0.18	0.15	0.00	1.00	1,609
Radio news	0.14	0.20	0.00	1.00	1,604
Newspaper	0.10	0.14	0.00	1.00	1,623
Online news	0.05	0.09	0.00	1.00	1,576
Offline political discussion	0.50	0.32	0.00	1.00	1,711

ⁱ Good model fit is achieved with a nonsignificant χ^2 , an RMSEA value of less than .05, TLI and CFI values higher than .90, and an SRMR index less than .05 (Holbert & Stephenson, 2002).