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Explaining Cross-National Variation in Digitally Networked Collective Action: Evidence from a Comparison of Japan and South Korea

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Abstract

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The digital era has ushered in a new collective action landscape that scholars are now trying to understand. To date, there has been insufficient attention paid to cross-national variation collective action that is driven by digitally mediated thin tie networks rather than formal political organizations. In this dissertation, I propose a theory of cross-national variation in digitally networked collective action (DNCA) and test it empirically through a paired case comparison of Japan and South Korea. I argue that the extent and scale of DNCA is to a large extent a function of citizenship norms, such that the use of digital media and related technologies will have a more transformative effect on collective action in contexts with high aggregate levels of engaged norms, and a less transformative effect in countries with low aggregate levels of engaged norms. I test this theory by looking for differences in the extent to which digitally mediated thin ties, social network size, and social network heterogeneity are conducive to participation in protests, boycotts, and petitions in Japan and South Korea. I evaluate the external validity of the results of the main analyses through a larger-N analysis.

Contents

Chapter 1

Introduction

In June of 2008, tens of thousands of Korean citizens poured into Seoul Plaza to protest then president Lee Myung-bak administration's decision to lift a ban on American beef imports that had originally been put in place to to concerns about spongiform encephalopathy (BSE). Korea is widely known for its frequent protest activity, but what made these protests unique was the type of people involved and the way they became involved. Whereas protests of the past most prominently featured the usual suspects–union and their members, college students, organizers and members of political organizations– the ranks of participants in what became known as the "candle light protests" (Chotbulshioui) were filled with middle and high school students, and families along with their children. Moreover, as Goh and Song (2010) show, many of these new participants became involved, not as result of the recruitment efforts of formal political organizations, but through internet chat rooms and text messaging, and the movement itself was not under the direct control of political organizations, but rather a free flowing horizontal network of concerned citizens, loosely connected through digital media (Kang, 2017). While the protests did not result in policy change, to many scholars of Korean politics the 2008 candlelight demonstrations marked the beginning of a new era of digitally

mediated protest in South Korea.

In fall 2017, protesters again flooded the streets of Seoul bearing the same kind of candles as the 2008 anti-U.S.beef protesters. Like the original candlelight protests, the second candlelight protests again involved a wide demographic swath of the Korean populace. Organizations were involved in organizing the protests, but many of those who came out to call for the impeachment and ousting of then President Park Geun-hye were recruited through digitally mediated horizontal networks, social media, and internet chat rooms (Lee, 2018). Unlike the first candlelight protests, however, the second candle protest achieved their political objective. After weeks of record-breaking demonstrations, President Park Geun-hye was impeached by the Korean national assembly, tried and convicted by the constitutional court of multiple instances of abuse of power, and incarcerated in a federal prison, where she remains as of this writing.

Korea's next door neighbor, Japan, is also no stranger to political corruption. While systemic political corruption has greatly declined since reforms instituted in the 1990s (Carlson & Reed, 2018), there have been a number of significant scandals that roiled the Japanese political world and mainstream media, but failed to generate any discernible level of citizen protest. To give an example, around the same time as the original candlelight protests were occurring in 2008, it was revealed that the LDP (Liberal Democratic Party)-led government was unable to retrieve the pension accounts of over 18 million Japanese citizens (Ryall, 2018). While this is of course not comparable to the level of systemic corruption betrayed by the Choi Sun-sil scandal in Korea, it was a serious issue at the time, all the more so since Japan is a rapidly aging society wherein a large share of the population depends on pension funds for their livelihoods Yet, whereas any Korea observer would expect such monumental incompetence to spark some degree of mass mobilization had it occurred in Korea, Japanese instead used the ballot box to punish the LDP, resulting in a rare turnover of power in Japanese Diet (Kokkai).

This is not to say that Japanese citizens do not protest, but that the form that protest movements tend to take in Japan more resembles traditional organization-based collective than the networked variety observed in the Korean candlelight protests, and that they are happen less frequently. For example, in explaining the weakness of Japanese anti-G8 protests in 2008, Maeckelbergh (2018) shows how a combination of interpersonal trust dynamics and hierarchical social patterns prevented the emergence of the type of horizontal movements that emerged in Korea that same year. In the absence of the emergence of networked movements, Japanese activism has more relied on traditional organization-based mobilization.

The most recent spate of nationally visible protest activity in Japan came in the aftermath of the triple disaster in 2011. After the meltdown of a nuclear power plant in Fukushima prefecture, massive nationwide protests erupted in opposition to Japan's dependence on nuclear energy. These environmental protests were soon accompanied by demonstrations in opposition to the proposed amendment of article 9 of the Japanese constitution, which prohibits the maintenance of a standing army with offensive capability. Many observers saw this as a resurgence of Japan's culture of contentious mass action that had remained dormant since its heyday in the 1960s and 1970s (e.g., Ogawa, 2015; Aldrich, 2015).

However, protest activity in Japan has since largely receded, and many of the political groups involved in organizing the protests have largely ceased activity. One of the main organizers of anti-constitutional revision protests, Students Emergency Action for Liberal Democracy (SEALDS) recently disabled many of the interactive functions of its website. Instead of information about demonstrations, the website landing page now reads: "The Emergency Action is Over". While protests against the construction of a military base in Henoko beach on Okinawa continue, it appears that the resurgence has ended. The movement was successful in so far as it played a part in forcing Japan to temporarily

deactivate its nuclear reactors, but prime minister Shinzo Abe's push to amend article 9 continues unabated in the face of public opposition ("Poll shows 54% oppose revision of Japan's pacifist Constitution under Abe's watch," 2019).

These two contrasting cases, Korea and Japan, have important implications for collective action in the digital era. First, collective action matters. Protests, boycotts, petitions, and other forms of mass action can have tangible political results. The affordances provided by new information and communications technology (ICT) have fundamentally altered the possibilities for mass action. Where people are inclined to view these affordances as political tools, the potential for mass mobilization seems almost limitless. Because of the way people are connected through social media and the internet, contentious action is no longer the domain of union leaders and professional activists. Now, the potential for protest activity to bring in a far more diverse and wider share of the citizenry is high, hence the potential for mass influence on politics and policy making is greater than ever before.

However, these two cases also demonstrate that, while this potential exists wherever ICT is sufficiently diffused, the extent to which this potential is actualized can vary. Whereas Korean activists and citizens took full advantage of these tools, their Japanese counterparts did not, and the use of ICT for mass demonstrations has gone largely unrealized. What explains this type of variation in the effect of the diffusion of technology on mass mobilization?

The purpose of this dissertation is to provide a theoretical framework that will help answer this question, one that can serve as the basis for understanding variation in digitally networked collective action (DNCA) more broadly. In short, I argue that variation in DNCA is a function of citizenship norms, or the way people view themselves in relation to the state and its institutions. Where people tend to perceive the proper role of the good citizen as being respectful and obedient to the laws and institutions of the state,

I expect ICT diffusion to be less transformative, as in the case of Japan. By contrast, where people tend to believe that a critical attitude and more direct citizen involvement in political affairs is a fundamental aspect of citizenship, I expect ICT to have more of a transformative effect on the way and the extent to which collective action occurs. I test this theory empirically through a comparative case study of Japan and South Korea, and probe its external validity through a larger multinational analysis. I find that citizenship norms do indeed exert a strong impact on the extent to which technology facilitates collective action.

The results of the analyses show that technology use, digital weak tie appeals to engage in collective action, and the size of individuals' thin-tie networks are more strongly associated with a variety of measures of participation in collective action when they occur or exist in a political cultural environment in which participation in contentious collective action is viewed as a socially normative behavior, and less so where it is not. Thus, while the power of digital media to give voice to citizens' movements is undeniable, this study suggests that its power is constrained and shaped by a nation's political culture. The results also suggest that the degree to which technology diffusion has this transformative effect might depend on particular moderating variables. For instance, whereas the effect of digital weak tie appeals on protest endorsement differs greatly by level of engaged norms, the results do not show such a difference when the action type considered is boycott or petition. At the same time, the results of the larger-N analysis show that the difference in the effect of technology use on protest and petition signing between high and low engaged norms countries is equally large for each action type, whereas the difference is smaller when participation in boycotts is the dependent variable.

The dissertation proceeds as follows. Chapter 2 discusses collective action theory and how it has evolved to address changes in the digital era. It then shows that the theory lacks an explanation for cross-national variation in digitally networked collective action.

Finally, drawing on several strands of literature stretching across multiple social scientific disciplines, a theoretical explanation of cross-national variation in DNCA is proposed. This theory results in the formulation of three core postulates. These postulates form the basis of testable hypotheses laid out in later chapters. Chapter 3 addresses the broad methodological strategy of the study. It begins by discussing case selection and the comparative strategy, then moves on to discuss the specific analytic approaches involved and the data used in each analysis. Chapters 4, 5, and 6 constitute the primary substantive analyses of the dissertation. Chapter 4 contains the results of a survey experiment. Chapter 5 discusses the results of an analysis of data from the East Asian Social Survey (EASS). In Chapter 6 I assess the external validity of the results found in the case studies. In chapter 7, I conclude the dissertation by discussing the implications of the results, the limitations of the current study, and suggestions for future research.

Chapter 2

Explaining Digitally Networked Collective Action (DNCA)

"Collective action" refers to the joint action of individuals in pursuit of a common goal. Many actions fall under this general category; resource use regimes (Ostrom, 1990), protests (Opp, 1990; Tarrow, 1998), etc. In this study I focus on collective action that is political in nature, in so far as it involves individual or group participation for the purpose of achieving a political goal. Specifically, I seek to understand and explain evolving patterns of contentious collective action, which Beissinger (2002) defines as "potentially subversive acts that challenge normalized practices, modes of causation, or systems of authority" (Beissinger, 2002: p.14).

The classical understanding of collection action starts with Olson (1965), who points out the central paradox of collective action is that the disposition to act collectively is an insufficient precondition for the action to be carried out. Since a potential collective goal can be accomplished regardless of whether or not a given individual participates, there is a large incentive to "free-ride" on the efforts of others, especially in large groups. It is this tension between individual incentives and collective potential that frustrates collective

action efforts and intrigues social scientists as they strive to understand when and how this dilemma is overcome. Olson's work implies that organizations are one of the primary means of overcoming the free-rider problem. By performing a variety of functions, such as rewarding participation and punishing non-participation, organizations make collective action possible. So it was that in the decades following the publication of Mancur Olson's seminal work, collective action scholars placed organizations and the political context in which they operate at the center of their research (McCarthy & Zald, 1977; Tilly, 1978; Jenkins, 1983; McAdam, 1982; Tarrow, 1998).

2.1 From Traditional Collective Action to DNCA

The world has undergone dramatic changes since the classical understanding of collective action was developed. Now, it is increasingly possible to overcome the collective action dilemma without organizations by using ICT to form networks capable of acting in concert. The most prominent examples of this type of political action are large scale protests, such as the Occupy Wall Street protests of 2011, or the Los Indignados movement in Spain. In both of these movements, digital media played a key role in coordinating the actions of thousands of disparate individuals and groups, a role that is traditionally played by political organizations or parties.

This type of action can also take other forms, such as boycotts and petitions (Copeland et al., 2016; Earl & Kimport, 2011). Earl and Kimport (2011), for example, show that websites, like PetitionOnline, make it easy for individuals without any organizational affiliation or backing to create and circulate petitions online simply by filling in a few boxes on a digital form. While petitions are not a new addition to the collective action repertoire, e-petition platforms make it easy and cheap to rally public support for a wide variety causes and even influence policy making in the government or parliament without

the resources or organization required by traditional petition drives (Earl & Kimport, 2011; Wright, 2012, 2015, 2016; Margetts et al., 2016). Scholars have coined a number of terms to describe this type of political action; "digitally enable" activism (Earl & Kimport, 2011), "horizontal organization" (Piven, 2013), "connective action" (Bennett & Segerberg, 2013), and "digitally networked action" (DNA) (Bennett & Segerberg, 2012). In this dissertation I will refer to this type of collective action as digitally networked collective action (DNCA).

Lance Bennett and Alexendra Segerberg (2012, 2013) develop one of most influential theoretical explanations of digitally networked action. According to the theory, the notable increase in networked collective action during the digital era is a result of the confluence of technological and sociocultural trends. With regard to technology, Bennett and Segerberg point to a body of literature that describes how the diffusion of digital media and related technologies has drastically lowered transactional costs involved in communication and organization (e.g., Shirky, 2009; Castells, 2011). In addition to lowering transactional costs involved in communication and political participation, the diffusion of affordances like social media has resulted in the embedding of individuals in vast social networks, making it easier for collective action appeals to spread or achieve virality. Roughly coinciding with technological change is the shift towards a political culture that tends to favor personalized means of political participation over institutional means. Drawing on the work of Dalton and Wattenberg (2002), Bennett and Segerberg note that citizens of post-industrial nations increasingly favor forms of political action that do not require adherence to a particular ideology, and that are not tied to formal political organizations, instead preferring personalizable means of participation.

These changes have increased networked collective action for three reasons. First, Bennett and Segerberg point to evidence that the assumption that utility maximizing individuals will free ride may not always be valid in an environment of dramatically

reduced transactional costs (Lupia & Sin, 2003). Second, they note that ubiquity of digital media has made the distinction between public and private—on which Olson's argument relies—less clear, potentially obviating the free-rider dilemma, as people increasingly see public goods as private gains and vice versa (Bimber et al., 2005). Finally, in contrast to collective action, participation in digitally mediated networks has been shown to be self-motivating, in that individuals are largely motivated to participate by their desire to derive satisfaction from self-expression and social sharing (Benkler, 2006; Bennett & Segerberg, 2012, p.752).

Whereas participants in many traditional forms of collective tended to require the adoption particular organizationally-derived set of symbols as a kind of prerequisite for participation, connective action involves the diffusion of "easily personalizable ideas" that allow individuals to develop their own framing of the action based on individual reasons for participating—what Bennett and Segerberg call a "personal action frame"—that they then share through interpersonal networks connected by digital media (Bennett & Segerbeg, 2012, p.744). As Bennett and Segerberg explain, "When these interpersonal networks are enabled by technology platforms of various designs that coordinate and scale the networks, the resulting actions can resemble collective action, yet without the same role played by formal organizations or transforming social identifications" (Bennett & Segerberg, 2012, p.752).

This is not to say that organizations no longer play a central role in facilitating collective action, but rather that these two mobilization logics coexist. Traditional mobilizing organizations now play a variety of roles. They can perform traditional mobilizing roles in concert with networks, as in the case of the Women's March of 2017 (Koh, 2016), resulting in what Bennett and Segerberg refer to as "organization-brokered" connective action. They can also join actions already underway, as in the case of the Chik-fil-A protest over same-sex marriage in 2012 (Copeland et al., 2016), or they can remain on the sidelines, as

in the case of Occupy and the initial Los Indignados movements (Bennett & Segerberg, 2013). Finally, organizations can "operate in the background" of networked collective action, playing a facilitating role but not exercising direct control over the networks, as was the case in the Put People First protests, resulting in what Bennett and Segerberg refer to as "organization-enabled" connective action (Bennett & Segerberg, 2013). Sometimes new organizations emerge from networked organizing, and these can challenge existing mobilizers, as in the case of the uneasy relationship between Black Lives Matter and the NAACP, which failed to make police shootings a high priority (Taylor, 2016, p.162). In rare cases, new parties emerge from networked actions, as in the case of Podemos in Spain (Kioupkiolis, 2016). All this is to say that organizations exist in a context of connective action.

Moreover, digital networks can actually strengthen organizations' role in shaping collective action outcomes (Earl & Kimport, 2011; Bimber et al. 2012; Karpf, 2017). As Karpf (2017) points out, both traditional and hybrid organizations can use e-petitions and other such tools to build activist networks, test the effectiveness of competing variations of collective action appeals, and generally build stronger and more effective mechanisms of political action by engaging in what he calls "analytic activism". For example, organizations, such as MoveOn, can develop "strategic objects" by taking advantage of the information provided by crowd-sourced activism, such as by building a database of emails resulting from circulating e-petitions (Karpf, 2017, p.132). Accordingly, what may appear to be a rudderless digital petition drive, may in fact be the concerted efforts of an organization working behind the scenes.

Influential individuals can also play a behind-the-scenes role in shaping connective action. Trott (2018) draws on a variety of analyses of instances of connective action to show that influential individuals within seemingly horizontal social movements can "strategically...cultivate their networks and utilize the [digital] platforms for particular

purposes", thereby acting as de facto movement managers (Trott, 2018, p. 125). Accordingly, the "stitching" together of disparate networks may occur in a deliberate fashion that is part of the planned trajectory of specific movement entrepreneurs, rather than in the organic, horizontal manner that Bennett and Segerberg (2012, 2013) suggest.

These caveats notwithstanding, the main thrust of recent developments in collective action theory is not that organizations or leaders do not matter. Rather, the point is that because most people in most societies–in particular, those living in economically developed societies–are now so completely enmeshed in digital thin-tie networks, all collective action should now be thought of as occurring in the context of networks. Sometimes organizations drive the networks, sometimes it is the other way around, but, to state the point a bit more bluntly, all collective action is digitally networked collective action to one extent or another.

2.2 thin-tie Sharing and DNCA

Since the network turn in collective action theory, scholars have identified political sharing as the heart of DNCA. But it is not just internally motivated sharing that creates DNCA, but also the medium through which it is done; namely, through digitally-mediated thin-tie networks. Sociological theory broadly classifies the relational ties between individuals into two types: strong (or thick) and weak (or thin). The category into which a given tie falls depends upon its "strength," which is defined as a function of three factors: the length that the tie has existed, the frequency of social exchange that occurs through it, and the degree of the emotional intensity with which a tie can be characterized (Granovetter, 1973: p.1361). Accordingly, a tie between two individuals can be characterized as strong to the extent that it has existed for a sufficient span of time, the extent to which there is a high degree of social exchange between the two individuals, such as

in face-to-face contact, and the extent to which there is a strong emotional connection between the individuals. Examples of strong ties would be the ties between close friends and family. Conversely, a weak tie exhibits fewer interactions and a lower degree of emotional intensity, such as might be found in a coworker, a friend of a friend, or other such acquaintances.

The importance of weak ties in facilitating information transfer and other contagion type behaviors was most famously elaborated by Granovetter (1973) in his seminal article "The Strength of Weak Ties". Granovetter points out that weak ties are critical to information transmission precisely because they do not result in the formation of closed subgroups in a social network. Between a group of close friends, for example, a piece of information, such news about a job opening, will be shared among members of the group. Once the information has circulated among the members of the group, its relevance or usefulness to the group will have been exhausted, and the information will either be put to some use or will be forgotten. Moreover, in a closed strong tie subgroup, the strength of the ties acts as a constraint on the amount of information flow from outside of the subgroup, and limits information flow from the subgroup to other groups and individuals in the network because of the aforementioned information-exhausting dynamic. Put simply, weak ties are critical to information transmission because they are flexible, hence allow for multiple connections to other individuals in a network, thereby permitting the flow of a greater variety of information.[1]

Drawing on this logic, the theory of connective action posits that thin ties are uniquely important to successful DNCA because political sharing results in the formation of self-organizing networks only when it occurs through thin ties. While this type of diffusion

[1]The relative importance of strong and weak ties has been the subject of debate in the collective action literature at least since the publication of Granvotter's article, with some arguing that weak tie transmission is more crucial to the spread of collective action, and others arguing that recruitment into collective action requires a significant degree trust, implying that strong ties are more central (See, e.g., McAdam & Paulsen, 1993; Pizzorno, 1986).

is not unique to the digital era, ICT exponentially multiplies the number of possible weak tie contacts any given individual can reach. This has two main direct effects. First, it results in the transmission of political stimuli to a far wider audience. One someone shares a meme it does not just reach reach one's strong tie contacts in one's immediate network, but the extended network in which one's network is embedded. Second, one is not merely exposed to content shared by one's immediate network, but is also exposed to content shared by individuals numerous degrees removed from themselves. The end result is a rapidly expanding chain of conversation of the type that forms the backbone of DNCA.

2.3 Social Network Composition and thin-tie Mobilization

The theory of connective action presents an important advance in collective action theory. However, one important lacuna in this theory is that it does not sufficiently explain variation in the extent to which political action scales up through thin ties. Bennett and Segerberg admit that this scaling up can vary by cause and the type of digital media involved, but their work suggests that the expected likelihood of the scaling-up of thin-tie networks should be largely invariant to context. To see this, consider their discussion of the use of technology in crowd-sourced mobilization. Bennett and Segerberg argue, for instance, that "With the recombinant nature of the DNA[digitally networked action] that emerges through this logic web spheres and their offline extensions go beyond communication systems to become flexible organizations in themselves...often enabling rapid action...even crossing temporal and geographic boundaries in the process (Bennett & Segerberg, 2013, p.41). Further, they argue that the example of the Arab Spring

suggests that the logic of connective action constitutes a set of mechanisms "through which similar forms of contention may diffuse across time and (very different) places" (Bennett & Segerberg, 2013, p.42). Yet, as the contrasting examples of Japan and South Korea discussed in chapter 1 illustrate, connective action is not equally likely to occur everywhere. In some places, large-scale DNCA appears to happen quite frequently, while in others it occurs sporadically, or only as a consequence of deep structural problems or massive exogenous shocks to the political system.

This raises an important question that constitutes the main problematic that this dissertation addresses. Does the scaling up of political action through thin-tie networks occur in the same way across different contexts? What contextual factors make this more or less likely to happen?

2.3.1 Social Network Composition as a Moderator of thin-tie Connectivity

Because the role of thin-tie networks is so crucial to DNCA, it follows that social network composition should play a strong role in moderating the extent to which they are conducive to DNCA. That is, since DNCA depends largely on the reception and acting upon of stimuli transmitted through thin-ties, it is likely that the extent to which this occurs depends upon the way the properties of the networks in which individuals are embedded shape thin-tie sharing hence conditions the extent to which political action scales up through them. Indeed, there is a wealth of information showing that social network composition has a significant impact on a variety of political behaviors (e.g., Granoveter, 1973; Mutz, 2002; Huckfeldt, Mendez, & Osborn, 2004; Nir, 2005; Song & Eveland, 2015; Siegel, 2009; Ikeda, 2012), and that the properties of social networks exhibit a significant amount of variance across network types (Siegel, 2009).

Recall that social networks are structures that consist of a set of actors and the relationships between them (Wasserman & Faust, 1994, p.20). For example, a set of individuals and the relational ties between them–friends (strong ties), acquaintances (weak ties), etc.– constitute a social network. Research on social network effects has tended to focus on two properties of social networks: social network size, and social network heterogeneity. Of these two, the literature is most consistent vis-à-vis the effect of social network size. The relationship between social network size and participation in collective behavior largely conforms to threshold models of collective behavior, which show that the contagion of novel behaviors depends on reinforcement from a multitude of sources (Hu et al., 2015). Accordingly, the larger number of contacts in one's network, the more political stimuli one is exposed to, hence a greater degree of participation. A number of studies show that social network size is positively correlated with voting (Huckfeldt, Mendez, & Osborn, 2004) and participation in various forms of collective action (Mutz, 2002; De Zúñiga & Valenzuela, 2011; Son & Lin, 2008; Juris, 2012; Nekmat et al., 2012).

The literature is less consistent on the effect of social network heterogeneity on participation in collective action. Social network heterogeneity refers to the degree of variance in the political views of a social network (Huckfeldt & Sprague, 1995; Nir, 2005). Some studies find a negative relationship between social network heterogeneity and propensity to participate in contentious collective action, owing to the way in which exposure to discordant opinions can cause feelings of discomfort, ambiguity regarding the proper course of action on a given issue, or cognitive dissonance (Mutz, 2002; Zaller, 1992; Lazarsfeld, Berelson, & Gaudet, 1944; Campbell, 2013; Campbell & Kwak, 2011). Others argue that social network heterogeneity should have a positive effect on political participation because exposure to diverse viewpoints encourages post-hoc information seeking, increases the likelihood of exposure to politically active individuals, and stimulates political interest, all of which are positively linked to various forms of political participation and

expression (Scheufele et al., 2006; Eveland, 2001; Song & Eveland. 2003; Kim & Chen, 2015; Lee et al., 2014; Barnidge et al., 2018; Nir, 2005, 2011). Moreover, social network models show that network heterogeneity reduces the tendency of networks to cluster into homophilous subgroups, thereby increasing the number of weak tie contacts which are thought to stimulate collective action (Kossinets & Watts 2009; Watts & Strogatz 1998; Granovetter, 1973). Still, the debate over the effect of network heterogentiy is ongoing.

Tie Properties, Network Composition, and DNA

While the effect of tie strength and network composition have rarely been examined conjointly, they are logically, theoretically and empirically related. First, consider social network size. While the number of contacts one can have is theoretically infinite, there should be some limit the number of individuals one can have strong tie relationships with. Whether or not this number is 150, as once proposed by Dunbar (1998), there must be some maximum number of strong tie contacts one can reasonably be expected to have. In this sense, social network size can be thought of as a proxy for the extent of weak tie contacts in a given network, since the proportion of weak ties must necessarily increase as social network size increases. Secondly, as suggested above, as social network size increases, the expected extent of social network heterogeneity should also increase probabilistically, since adding more people to one's network should result in greater variance in one's network. Indeed, this was confirmed experimentally by Hu et al. (2015). Thus, the effect of social network size and social network heterogeneity on participation in collective action are inherently related.

In a first of its kind study that has gone largely ignored by most collective action theorists, Hu et al. (2015) show that the effect of network size/heterogeneity on participation in collective action hinges on initial conditions. Drawing on agent-based simulations, Bennett and Segerberg show that the effect of network size/heterogeneity can be negative,

positive, monotonic, or curvilinear, depending on agents' baseline willingness to participate. Where there is a preexisting general willingness to participate, heterogeneity plays a critical role in generating collective action because of the way it brings about exposure to stimuli from multiple weak tie contacts. Conversely, where there is a general preexisting aversion towards participation, network homogeneity is more conducive to collective action because it leads to the clustering of networks into closed homophilous strong-tie networks. Given such conditions, heterogeneity has a depressive effect on the likelihood of participation on the part of any given node in the network, since the exposure to multiple stimuli is less important than stimuli from strong tie contacts.

This finding has important implications for digitally networked collective action. At the aggregate level, these findings suggest that the effect of network heterogeneity and social network size on collective action mobilization should be contingent on overall willingness to participate. Indeed, there is some empirical cross-national evidence that both the effect of social network size and network heterogeneity are in fact contingent on nation-level contextual variables related to overall willingness to participate (Jenkins, 2019). At the individual, this means that the effect of thin-tie sharing depends upon the baseline willingness to share political content, as well as the baseline willingness to respond to the content on the part of the receiver. In this sense, the problem of identifying variation in DNCA reduces to that of identifying sources of variation in general willingness to participate in political sharing. The theory of connective action suggests that political culture should be relevant here.

2.4 Political Culture and Cross-National Variation in DNCA: 3 Postulates

As mentioned above, the theory of connective action states that digitally networked action is made possible by the synthesis of technological and social trends. Technological change makes the rapid scaling up of thin-tie networks logistically possible, and sociocultural change in modernized societies have made citizens generally willing to participate through these digitally networks. As Bennett and Segerberg explain:

> Citizens coming of age in the current era tend to seek personally expressive modes of action about problems they share with others. The trouble is that those others are less likely than they were in past eras to be assembled via connections to party, union...Rather, they are more often joined through social networks, friend circles, trusted recommendations, media sharing... (Bennett & Segerberg, 2013, p.39).

Bennett and Segerberg argue that this preference for self-expressive participation is rooted in cultural changes described in Ronald Inglehart's *Modernization and Post Modernization*, which details the shift from materialist to post-materialist values in modernized societies (Inglehart, 1997). In this work, Inglehart argues for a revised version of modernization theory wherein economic development and cultural change are linked, though they may not be linearly or deterministically related. Inglehart provides a wealth of evidence showing that as societies develop economically citizens tend to increasingly value quality of life (environmental quality, etc.) over issues related to survival (economic growth, military power, etc.), that they tend to shift from recognizing traditional modes of authority to secular-rational authority, and that citizens come to value self-expression over obedience to authority. Inglehart refers to this new set of cultural values as post-materialist values.

Now, there is an emerging literature on citizenship norms that is logically connected to Inglehart's thesis, hence has implications for the theory of connective action that are not discussed by its creators. This literature argues that the broad cultural shifts identified by Inglehart has resulted in, or is somehow linked to, the emergence of a new set of democratic citizenship norms, which are defined as "shared set of expectations about the citizen's role in politics" (Dalton, 2008, p.78). Whereas democratic citizenship in the materialist era tended to be centered around institutionally sanctioned modes of participation, such as voting and contributing to campaigns, cultural change of the sort described by Inglehart (1997) has occasioned the emergence of a new set of citizenship norms, wherein the "good citizen" is now viewed as someone who is an active participant in a wide variety of non-institutional forms of participation, such as protests and boycotts (Bennett, 2012; Dalton, 2008; Norris, 1999). These types of norms have been described in a number of ways, such as "Critical" (Norris, 1999) and "Self-actualizing"(Bennett, 2012). Here, I follow other authors in this vein of scholarship (e.g., Hooghe et al., 2016; Copeland & Feezell, 2017) in using Dalton (2008)'s distinction between "duty-based" and "engaged" norms, with the latter referring to norms that favor non-institutional participation or a combination of institutional and non-institutional participation (Copeland & Feezell, 2017).

From the perspective of connective action theory, it would make sense to view the emergence of engaged citizenship norms as a consequence of post-materialist values. If citizens value self-expression over social conformity, then it is reasonable to expect that political self-expression should become a socially acceptable or even expected behavior, and that this social acceptability will act as a further factor in facilitating sharing and networked action. One problem with such a view, however, is that there does not appear to be an empirical link between citizenship norm type and post-materialism. Hooghe et al.(2016), drawing on a 38 country study, do indeed confirm that the engaged-dutiful

norms distinction is relevant to a broad array of countries, but they also find that norm type is uncorrelated with political system and level of economic development. This in turn means that the presence of post-materialist values does not necessarily mean that a particular mode of political participation is considered normative, or even that it is a widely socially acceptable behavior. Conversely, where non-institutional modes of political participation are common we might not necessarily expect to find a high degree of post-materialist values or a specific notion of the "good citizen". Further, Bennett and Segerberg find that citizenship norms are better described as a spectrum, rather than a dichotomy, wherein the act of protest ranges from being an expected behavior to being socially undesirable and meriting social censure.

All of this complicates our understanding of cross-national variation in connective action in so far as it makes the underlying mechanism less clear, and because it makes explaining cross-national variation in connective action more difficult. If a given society has high post-materialist values and low levels of engaged norms, should we expect high or low levels of connective action?

A second possibility is that citizenship norms have an entirely independent effect on collective action. The logic behind this explanation follows from the findings of Hu et al. (2015), discussed above, which show that virality largely depends on an initial willingness to participate. There are at least two ways in which citizenship norms can affect initial willingness to participate. First, those who see protest as an expected or normative behavior should have a lower participation threshold, hence should be expected to be more strongly affected by calls to action encountered online. Second, we might also expect citizenship norms to raise the overall baseline pressure to participate in politics, regardless of individuals' specific beliefs about the proper behaviors of democratic citizens. The reasoning here follows from the literature on social influence, which shows that social influence from peers and acquaintances, both digitally mediated (Bond et al., 2012;

Margetts et al., 2016) and otherwise (Gerber, Green, & Larimer, 2008; Sinclair, 2013), can exert a strong effect on a number of political behaviors. In this sense, citizenship norms can be thought of as the baseline social pressure to engage in or abstain from a given political act.[2]

Following from this logic, I derive three broad theoretical postulates that can be used to derive empirically testable hypotheses. Whereas the theory of connective assumes that weak tie sharing will be more or less equally conducive to connective action across contexts, the reasoning above suggests the contrary. Instead, it suggests that sharing through thin ties will be more likely to result in DNCA in contexts where there are high aggregate levels of engaged or participatory citizenship norms. This is stated formally in postulate 1 below.

Postulate 1: thin-tie political sharing will be more strongly associated with collective action in contexts where there is a higher level of engaged norms, and lower in contexts with low levels of engaged norms.

There are numerous possible causal pathways that could lead to this result. For example, it is known that social social media endorsement is one of the primary drivers of DNCA (Margetts et al., 2016). The theory above suggests that individuals in high engaged norms countries should be more likely to endorse collective action content posted on social media than an individual in a low engaged norms context. It could also be that individuals in low-engaged norms countries are less likely to post political content in the first place. Indeed, it is likely to be the result of some combination of these. It will suffice to note there that common to all of them is the underlying idea that thin-tie connections

[2]While any given individual's perceptions of what constitutes a norm will vary by reference group, I assume that, in the aggregate, the dominate overall tendency will exert the strongest effect on collective action.

do not provide a sufficient stimulus to action in contexts where the baseline pressure to act is low.

Now, recall the connections between tie strength and social network size noted above; namely, that the number of thin ties one has must necessarily grow as the size of one's social network grows. Assuming this to be true, we should expect the relationship between social network size and participation in collective action to resemble that between thin-tie network extent and participation in collective action. That is, assuming postulate 1 to be true, the accumulation of additional weak tie contacts will have a more limited effect on a given individual's likelihood of participating in collective action in low engaged norms contexts than in high engaged norms contexts, even though the effect of social network size on the likelihood of participation is positive for both context types. This is stated formally as postulate 2.

Postulate 2: Social network size will be more strongly correlated with DNCA in contexts characterized by higher levels of engaged norms than in contexts with lower levels of engaged norms.

A corollary of postulate 2 is that the effect of social network heterogeneity on participation in DNCA will also vary by citizenship norms. There are two reasons for this. First, recall that social network size and social network heterogeneity are positively correlated. Second, the findings of Hu et al. (2015) suggest that the effect of social network heterogeneity–at the individual and network level–depends upon baseline willingness to participate. If citizenship norms constitute this baseline willingness to participate, as I have argued here, then we should expect network heterogeneity to be more conducive to DNCA in high engaged norms contexts than in low engaged norms contexts. This is stated formally as postulate 3 below.

Postulate 3: Social network heterogeneity will be more strongly correlated with DNCA in contexts characterized by higher levels of engaged norms than in contexts with lower levels of engaged norms.

Here too there are many pathways that could potentially lead to this result. For example, it could be that the exposure to conflicting viewpoints and the increase in potential of offending someone that results from having a heterogeneous network will act as a stimulant to participate where participation is socially expected, i.e. in a high engaged norms context. Where participation is already a non-normative behavior, however, the potential social cost associated with participation in contentious action should outweigh the incentive to participate. This dissertation is designed to take the first steps in evaluating these postulates empirically. It is not possible to evaluate all of the specific pathways in a single work. I thus leave it to future studies to investigate the specific causal pathways that lead to these patterns.

Chapter 3

Methodology

In this section I describe the methods I use to evaluate the theoretical postulates developed in chapter 2. This section proceeds as follows. First, I discuss the cases I will use to test my theory: Japan and South Korea. Here, I explain the rationale behind the selection of these cases, how they will permit valid inferences, and the comparative logic underlying the case comparison. This section concludes with a brief overview of the data and analytic methods employed in each chapter.

3.1 Case Selection and Comparative Logic

As Tarrow (2008) points out, paired case comparisons allow us to see how the effects of independent variables vary across national context while at the same time permitting an interpretation of the results that draws on deeper knowledge of the cases than is possible when a larger number of cases are examined. Here, such an approach is warranted because it will permit a deeper understanding of the way scaling up differs across political cultures.

One pair of cases that illustrate the complex nature of the relationship between culture and collective action is Japan and South Korea. The two democracies share a striking

number of contextual similarities, making them ideal for a paired case comparison (Arrington, 2016). For instance, they exhibit similar levels of post-materialist values (Inglehart, 1997; Dalton & Shin, 2006), similar levels of socioeconomic development, collectivist cultures (Hui & Triandis, 1986), and, critically for the present study, similar levels of internet penetration ("Internet Usage in Asia," 2017) and social media use (Mocanu et al., 2013).

Despite these similarities, the collective action profiles of the two countries could hardly be more different. Longitudinal data show large disparities in collective action participation rates, with Koreans being far more likely to report participation in protests, boycotts, and petitions (Author, 2019). And, while both countries have vibrant civil societies, Korean activism "tends to take the form of high-visibility tactics," whereas in Japan the "prevailing model of activism...looks more like a local study group"(Arrington, 2016, p. 52). Similarly, Maclachlan (2002) points out that consumer advocacy in Japan is frequently done through policy lobbying and advocacy, rather than demonstrations or boycotts (Maclachlan, 2002, p. 132). Furthermore, the few notable instances of protest in Japan in the past ten years were largely traditional organization-brokered protests, such as the anti-nuclear protests and pacifist protests led by student organizations in the mid 2010s (Ogawa, 2014). By contrast, over the same time span Korea has been host to numerous large-scale digitally networked political movements, such as the candle light protests of 2008, the boycott of Namyang Dairies, and the recent Park Geun-Hye protests.

Accordingly, this case comparison constitutes a Most Similar Systems Design (MSSD) in so far as the it seeks to compare two systems that are broadly similar in a number of important respects, but that vary on a a few key variables of interest. By choosing two cases that are similar I can, in effect, control for a host of confounding variables that would limit the ability to make causal inferences regarding the key independent variables.

Obviously, this design has limitations and does not truly "control" for confounding variables in the same way that a multivariate analysis conducted on a large-N data set would. Fortunately, as discussed in detail below, this dissertation triangulates the results of the case comparison with a multivariate analysis of a larger set of cases.

3.2 Data and Analytic Methods

This study includes three primary analyses. The first analysis is designed to test the relationship between tie-connectivity, engaged norms, and participation in networked collective action. In the second study I focus in on the effects of social network size and social network heterogeneity. In the third analysis I evaluate the generalizability of my theoretical framework by examining a larger set of cases. In what follows, I provide an overview each of these sets of analyses and the data used to test them.

3.2.1 Survey Experiment

I evaluate postulate 1 by examining the effect of thin-tie collective action requests on motivation to endorse the collective action. The data here come from a survey experiment that was conducted by the author in Japan and South Korea. The data were collected by Qualtrics between August 21 and September 24, 2018. Quota sampling by age, sex, education, and income was used to ensure that the samples are roughly representative. The data set was cleaned in order to ensure that only valid responses are analyzed following the procedure described by Kohama, Inamasu, and Tago (2017). The resulting data set totals 1,493 respondents ($N_{Japan} = 1079$, $N_{Korea} = 414$), with 46% of the total respondents being female and 53% Male.

A randomized factorial experiment was embedded in the instrument. Subjects were shown three social media messages in a randomized order, each of which dealt with a

particular political action type. The action types considered are protest, boycott, and petition. Within each message block, subjects were randomly assigned to one of three groups: a weak tie ("acquaintance") treatment group, a "friend" treatment group, or a control group. Subjects in both the acquaintance and friend treatment groups were shown a collective action appeal that was made to appear as if it had been posted to social media by the subject's friend or acquaintance, the names of which were provided by the subject in a pretreatment survey item.[1]

After being shown the post, subjects were asked how motivated they were to endorse the post, share the post, or ignore it. Following Bond et al. (2012), subjects in the control group were shown a neutral informative message that relayed the same basic information as the collective action appeal. Balance checks show that the randomization procedure was largely successful, resulting in treatment and control groups that were roughly equal across a range of theoretically relevant covariates (age, sex, education, political ideology, etc.). A full discussion of survey methodology along with full descriptive statistics is included in the appendix.

The main dependent variable is motivation to endorse a collective action appeal. It is given as the sum of a respondent's score across two measures of social media endorsement ("like" and "share") less the subject's motivation to ignore the post, each of which measures range from 0 to 100, meaning that it has a maximum possible value of 200, and a minimum possible value of -100. This sum is then standardized in order to make it more easily interpret able. The resulting variable has a mean of 0.29 (SD = 1), and ranges from -1.33 to 2.65, where lower values indicate a lower motivation to endorse collective action appeal, and higher values indicate a higher motivation to endorse collective action appeals.

[1]These simulated appeals are constructed around valence issues, like the environment, in order to avoid priming ideology, following Nekmat et al. (2012).

The main independent variable is a dummy that indicates whether a given subject was in the treatment (1) or control group (0). Engaged norms are measured by an index that ranges from -1 to 3 (Mean: 0.63, SD: 1.25), with higher values indicating higher levels of engaged norms (See appendix for full discussion). As expected, Koreans subjects scored on average 0.97 higher on this index than their Japanese counterparts (95% CI:[0.84, 1.10]), even when controlling for demographic variables, supporting existing studies that are suggestive of such a difference. Social network heterogeneity is measured by a survey item that asks respondents how similar a given set of contacts is to each other with regard to their views on politics. The resulting index ranges from 0 to 30, where higher values indicate more social network heterogeneity. The mean value is 15.13 (SD: 5.28).

Analytic Method

The primary method of analysis in this chapter is a simple t-test for a difference of means in the outcome variable. These t-tests are supplemented by multivariate OLS (Ordinary Least Squares) regressions that serve as robustness checks on the main results. In addition to the main analysis, causal mediation analysis is conducted following the procedure outlined by Imai et al. (2010).

3.2.2 Analysis of Cross-Sectional Data

In order to evaluate postulate 2, I examine the effect of social network size and heterogeneity on participation in collective action. The data for this analysis come from the 2012 East Asian Social Survey. The EASS is a survey specifically designed to measure social networks composition in East Asia. Network size is operationally defined as the number of people (family members and non-family members combined) that one interacts with on a daily basis, including interaction through face-to-face contact as well as contact

through the internet. This variable ranges from 2 to 14, where 2 indicates a small social network, and 14 indicates the maximum social network size. Social network heterogeneity is operationally defined as the extent to which members of one's social network are different from each other. This operationalization perhaps does not capture all aspects of heterogeneity, but it does capture the social context in which individuals perceive themselves, a social context that has been proven to be important in affecting individuals' decision to engage in collective action, at least in the two countries considered here (Jeong, 2013; Lee, 2016). This variable is measured by a survey item that asks respondents the extent to which members of an organization in which the respondent participated are different from each other. The resulting variable ranges from 1 to 4, where 4 indicates the highest level of network heterogeneity.

I consider two outcome variables. The primary outcome variable of interest is participation in PBP (Protests, Boycotts, and Petitions). This is given by a survey item in the EASS that asks respondents whether or not they have participated in protests, boycotts, or similar activities in the past 12 months (single question). However, since it is possible that participation in these activities might go under-reported, I also consider as a secondary outcome variable participation in political groups. Theories of collective action indicate that participation in political groups is likely to be strongly positively correlated with protests, boycotts, and petition. Participation in political groups is indicated by a binary variable, where 0 indicates non-participation and 1 indicates that the respondent participated in a political group. I add controls for age, sex, education, and political interest, since these are likely to have independent effects on participation. Political interest is measured by a Likert-type scale, where a value of one indicates the highest level of political interest, and a value of 7 indicates the lowest level.

Analytic Method

The primary method of analysis in this chapter is logistic regression. Main logistic regressions are supplemented by quasi-Bayesian robustness checks that are designed to assess the sensitivity of the results to priors.

3.2.3 Large-N Study

In the final substantive chapter I probe the generalizability of the theory proposed in chapter 2 by estimating the interaction effect between technology use and engaged norms on participation in collective action on a larger set of countries. Data for this chapter comes from two main sources: wave 5 and wave 6 of the World Values Survey (WVS), and protest count data obtained from the Integrated Crisis and Emergency Warning System (ICEWS) database compiled by Boschee et al. (2018). Data on country-level citizenship norms is obtained from the appendix of Hooghe et al. (2016).

Analytic method

Similar to the analysis of EASS data in chapter, this chapter again uses a number of regression techniques–ordinal logistic regression, binary logistic regression, Negative Binomial Regression, and the Cox proportional hazards model–to estimate the interaction effect of citizenship norms and technology use on participation in collective action at the individual level.

Chapter 4

Digital Weak-Tie Appeals and Social Media Endorsement

4.1 Introduction

In chapter 2 I introduced the theoretical framework that I will use to understand cross-national variation in digitally networked collective action (DNCA). Recall that postulate 1 states that thin-tie sharing will be more conducive to participation in DNCA in contexts characterized by high levels of engaged norms. In this chapter I use this postulate to develop testable hypotheses and then evaluate them empirically using a survey experiment. Overall, the results of the analysis support theoretical expectations in so far as they show that weak tie collective action appeals to protest have a greater effect on motivation to endorse the appeals in South Korea, a high engaged norms context, than they do in Japan, a low engaged norms context. Further, the heterogeneity and mediation analyses suggests that the motivation to endorse digital protest appeals is mediated by participatory norms.

This chapter proceeds as follows. First, I derive specific testable hypotheses from postulate 1. Then, I describe in detail the analytic techniques used in the main analysis. The discussion of the results begins with an empirical assessment of aggregate levels of engaged citizenship norms in the two countries, proceeds to a discussion of the main results, then concludes with heterogeneity and mediation analysis. This chapter concludes with a brief discussion of the implications of the results.

4.2 Hypotheses

Recall that postulate 1 states that thin-tie connectivity should be more conducive to DNCA in high engaged norms contexts, and lower in low engaged norms contexts. If we operationally define "thin-tie sharing" as weak tie appeals to engage in collective action, we can draw the following inferences about cross-national variation in the propensity to endorse social media appeals to engage in collective action. First, we should expect appeals to engage in collective action encountered online to more strongly motivate individuals to endorse them when compared with individuals in societies with aggregate lower levels of engaged norms. A logical corollary to this is that collective action appeals from strong ties should have a stronger effect on motivation to endorse collective action appeals among individuals in countries with low levels of engaged norms, since the trust inherent in a strong bond should be more important as a motivation to participate, as suggested by Nekmat et al. (2012).

H1A: Collective action appeals received from weak tie contacts will have a greater effect on motivation to endorse them for individuals in countries with high levels of engaged norms than for those in countries with low levels of engaged norms.

H1B: Collective action appeals received from strong tie contacts will have a greater effect on motivation to endorse them for individuals in countries with low levels of engaged norms than for those in countries with high levels of engaged norms.

One issue that is rarely addressed in the empirical literature on networked action is the effect of action type. It is telling to note that the vast majority of large-scale digitally network action movements have been protests. Accordingly, it make sense to expect the effect in $H1$ to obtain for protest. Indeed, in the present cases of Japan and Korea, the largest and most consistent difference is found in protest (Author, 2019). Yet, it is also possible that effect of weak tie appeals varies by action type, since the literature suggests that weak tie requests are less effective for riskier actions(Carty, 2010; Postmes & Brunsting, 2002). At first glance, endorsing social media posts may not seem to be particularly risky, but online activity can result in the exposure of one's identity in way that is difficult or impossible for individuals to control (Bimber et al., 2005; Earl & Kimport, 2011; Nekmat, 2015). Further, following the reasoning laid out in Golstone and Tilly (2001), among others, we might expect publicly endorsing protests might accordingly be the most socially costly behavior, given the directly confrontational nature of protests and their association with violence. Thus, endorsing contentious political action is likely to be costly to individuals, all the more so when they are carried out in a context where non-institutional participation is not a normative behavior. However, it is unclear whether we should expect the difference in the effect of weak tie appeals to be greater or lesser for riskier actions. It might be greater if the cost to participation is sufficiently high, but existing theory does not suggest sufficient grounds for this expectation. Accordingly, I pose the following research question:

RQ1: Is the difference in the effect of weak tie collective action appeals described

in H_{1A} greater for the endorsement of costly actions, or is it greater for less costly actions?

Secondly, following the logic laid out above, we should expect the effect of collective action appeals on motivation to endorse to be more clearly positively correlated with individual level of engaged norms for individuals in countries with higher aggregate levels of engaged norms. In other words, the impact of digital appeals to engage in collective action individual motivation to participate in micro mobilization should be greater since they both a duty at a personal level and a social pressure to participate. It is not clear what exactly to expect in countries with lower levels of engaged norms, but it is reasonable to expect the correlation to be weaker than that in countries with higher levels of engaged norms as suggested by postulate 1.

H2A: The effect of weak tie collective action appeals on motivation to endorse is positively correlated with individual level of engaged norms for individuals in countries with high aggregate levels of engaged norms.

H2B: The effect of weak tie collective action appeals on motivation to endorse is either uncorrelated, weakly correlated, or negatively correlated with individual level of engaged norms for individuals in countries with low aggregate levels of engaged norms.

Third, foll wing from postulate 3, we should expect the interaction effect between social network heterogeneity and exposure to collective action appeals to also vary by aggregate citizenship norm type. In countries with high levels of engaged norms, we should expect the effect of collective action appeals encountered on social media to be positively related to the degree of social network heterogeneity, whereas in countries with lower levels of aggregate norms we should expect it to be negatively related.

H3A: The effect of collective action appeals on motivation to endorse them will be positively correlated with social network heterogeneity for individuals in countries with high levels of engaged norms.

H3B: The effect of collective action appeals on motivation to endorse them will be negatively correlated with social network heterogeneity for individuals in countries with low levels of engaged norms.

4.3 Method of Analysis

H_{1A} and H_{1B} are tested by finding the difference between the ATE (average treatment effect) for Japan and that for Korea. This is estimated separately for each treatment group using OLS with the model shown in equation 4.1 below.

$$Y = \beta + \alpha T_i + \gamma C_i + \delta T_i * C_i + \epsilon_i \tag{4.1}$$

Here, C is a country dummy, T is a treatment dummy that takes a value of 1 if the respondent received the treatment and 0 if they were assigned to the control group, and δ gives the difference between the ATE for Japanese and Korean respondents. H_{3A} and H_{3B} are tested using within-country interaction models, wherein engaged norms and social network heterogeneity are interacted with the treatment variable ("acquaintance" group only).

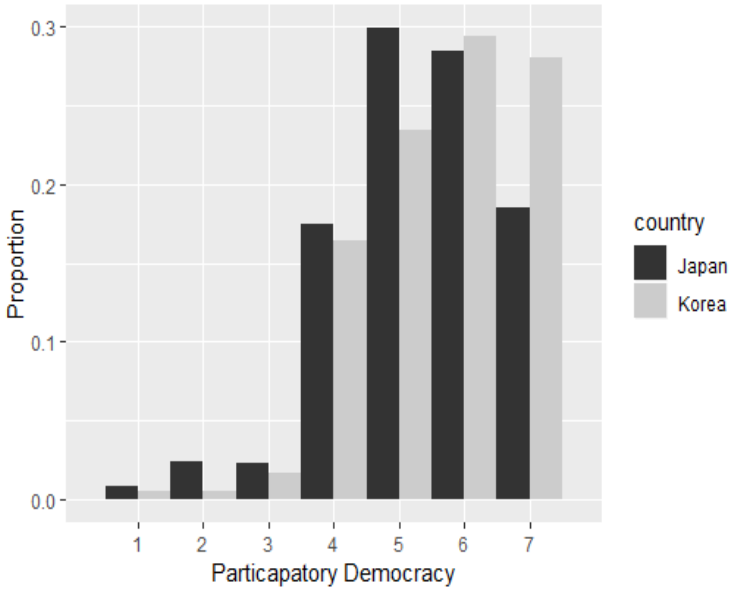
4.4 Results

4.4.1 Assessment of Engaged Norms

While existing studies strongly suggest that Korea has higher aggregate levels of engaged norms, further analysis was conducted in order to verify this result. There is currently no widely accepted cross-national measure of engaged norms (Hooghe et al., 2016). Accordingly, I follow both of the leading approaches to measuring citizenship norms. First, following Cho and Kim (2017), I operationally define engaged citizenship norms as the extent to which people believe that ordinary citizens should be more involved in politics. This operational definition follows from the literature on participatory democracy, and is line with the definition of strong participatory norms outlined by Barber (1984), among others. While Cho and Kim (2017) argue that engaged citizenship norms and a preference for participatory democracy are essentially the same concept, I shall refer to this operationalization of engaged norms as "participatory norms".

The instrument contains an item that asks respondents the extent to which they believe that ordinary citizens should be more involved in politics. The response to this item is a Likert-type scale that ranges from 1, "Strongly Disagree" to 7, "Strongly Agree". The resulting variable has a grand mean of 5.41 (SD:1.23) and a median of 5.00. The distribution of this variable is shown in Figure 4.1.

Figure 4.1: Distribution of Participatory Norms



This variable was regressed on a country dummy and demographic controls in order to evaluate the extent to which the two countries differ. The results show that, on average, Koreans scored 0.268 higher on the participatory norms index than did Japanese when controlling for age, sex, education, income, and political ideology. This difference is statistically significant at the 0.01 level. Substantively, this is a not drastic difference at the individual level. However, it can arguably be interpreted as a reflection of the fact that a significantly higher proportion of Korean respondents scored on the higher end of the scale. The results of this test are shown in Table 4.1.

Table 4.1: Test of Difference Average Level of Participatory Norms

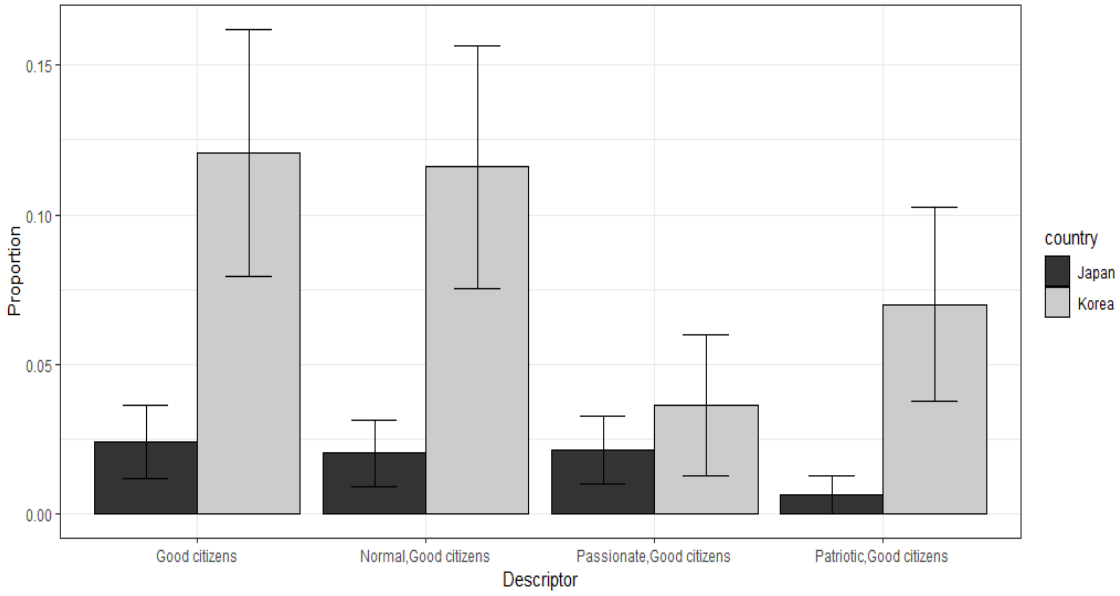
	Dependent variable:
	Participatory Norms
Korea	0.268^{***}
	(0.071)
Age	0.021
	(0.024)
Sex	0.034
	(0.064)
Edu	0.024
	(0.033)
Income	0.140^{***}
	(0.033)
Ideology	-0.076^{***}
	(0.016)
Constant	5.185^{***}
	(0.167)
Observations	1,492
R^2	0.041
Adjusted R^2	0.037
Residual Std. Error	1.206 (df = 1485)
F Statistic	10.552^{***} (df = 6; 1485)
Note:	*p<0.1; **p<0.05; ***p<0.01

To supplement this approach, I also consider the approach rooted in the tradition of Dalton (2008), which attempts to assess citizenship norms by asking citizens their views on what types of actions are associated with good citizenship. To this end, the instrument included an item that asked subjects to use up to two words to describe protesters.

Subjects were permitted to chose up two words from a list of descriptors. The pro-

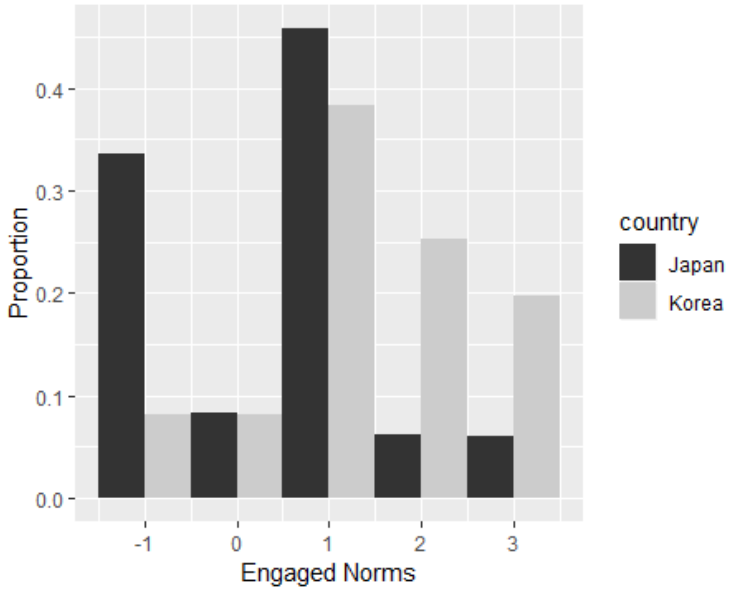
portion of subjects who described those who protest as "Good Citizens," or some combination of this and another descriptor is shown in Figure 4.2. 99% confidence intervals for the proportions are given by whiskers. The results show that a far higher proportion of Koreans described protesters as "Good Citizens" as compared to their Japanese counterparts. While this is not a particularly precise measure, it does indeed suggest that a higher proportion of Koreans view protesting as a normative political behavior, thus supporting the findings of existing research.

Figure 4.2: Descriptions of Protesters



An engaged norms index is constructed by scoring each subjects response as follows. First, each subject was assigned a value for three categories: -1 for negative entries("Dangerous," "Rebellious," "Communist"), +1 for neutral ("Normal," "Passionate"), and +2 for entries that indicated that protest was a normative behavior for a citizen of one's country ("Good citizens," "Patriotic"). This procedure resulted in an index that ranges from -1 to 3, with an grand mean of 0.69 (SD:1.25). Figure 4.3 shows the proportion of subjects that chose each value for both countries, and Table 4.2 shows

Figure 4.3: Distribution of Engaged Norms



the results of a difference in means test with controls for covariates. The coefficient on "Korea" shows that, on average, Koreans scored almost an entire point higher than did Japanese on the -1 to 3 engaged norms index. This difference is both substantively and statistically significant ($p<0.01$).

The correlation between the participatory norms variable and the engaged norms variable is about 0.25 ($p<0.01$), so, contrary to Cho and Kim (2017), while the two measures are positively correlated, it is unclear that they are measuring the same concept. On the other hand, given the truncated nature of the measures, this can also be interpreted as a reasonably strong correlation. Accordingly, I shall refer to both measures as measures of engaged norms, making sure to distinguish between the two when necessary.

Table 4.2: Test for Difference in Average Level of Engaged Norms

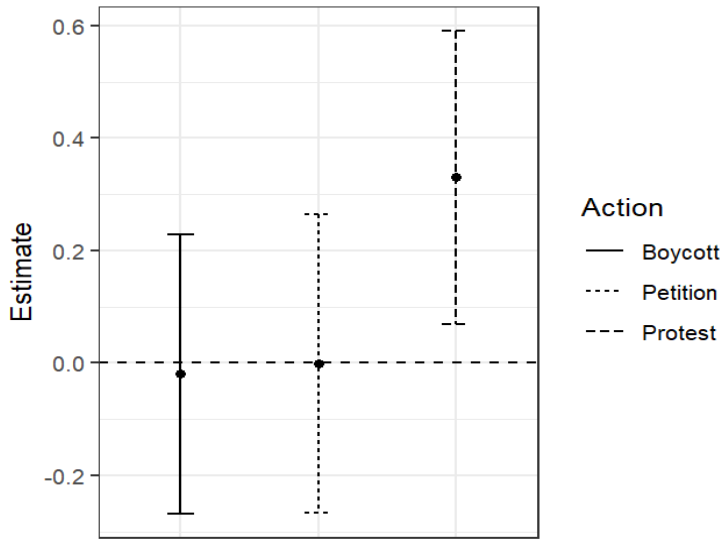
	Dependent variable: Engaged Norms
Korea	0.939^{***}
	(0.067)
Age	0.064^{***}
	(0.023)
Sex	0.015
	(0.061)
Education	0.015
	(0.032)
Income	0.095^{***}
	(0.031)
Ideology	-0.106^{***}
	(0.015)
Constant	0.453^{***}
	(0.159)
Observations	1,492
Residual Std. Error	1.148 (df = 1485)
F Statistic	47.236^{***} (df = 6; 1485)
Note:	*p<0.1; **p<0.05; ***p<0.01

4.4.2 Main Results

Figure 4.4 shows the results for the test of H_{1A}. The point estimate indicates the difference between the ATE for Korean subjects and that for Japanese subjects, such that a positive number indicates a higher ATE for Korea, and negative numbers indicate the opposite. Whiskers show 95% confidence intervals based on robust standard errors. The results in Figure 4.4 show that weak tie appeals had a more strongly positive and

statistically significant effect on motivation to endorse the protest message than in Japan, with the Korean ATE being about 0.33 higher on the scale described above (95% CI: [0.59, 0.69]). This difference is statistically significant at the 0.05 level (p = 0.01), and, considering that it represents about a third of a standard deviation of the dependent, is also fairly substantively significant. Models with covariates were also estimated, but the substantive effect and statistical significance of the estimates did not change. The full results of all of these models are included in the appendix.

Figure 4.4: Difference in ATE of Weak Tie Appeals



With regard to RQ_1, since that the difference in weak tie appeals is only observed for protest, we can infer that weak tie appeals exert a stronger impact on micro mobilization when the mobilization in question is potentially costly.

Figure 4.5: Difference in ATE of Strong Tie Appeals (Protest Only)

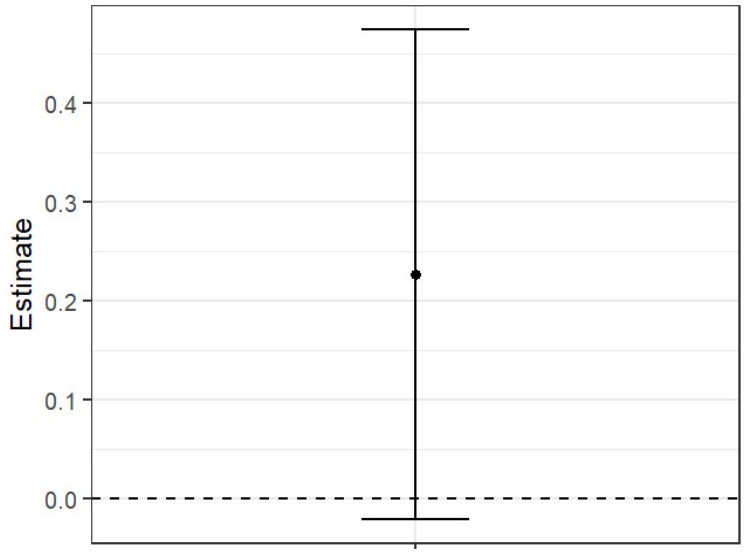


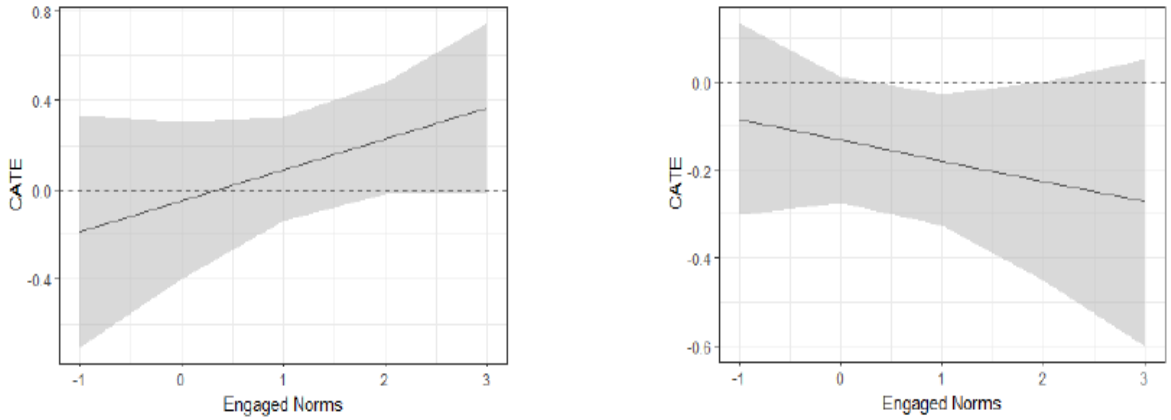
Figure 4.5 shows the difference between the Korean and Japanese ATE for the strong tie ("Friend") treatment group. While the result is similar to that of a weak-tie contact, at 0.22 the estimated difference in ATEs is somewhat smaller and narrowly avoids statistical significance at the 0.05 level (95% CI: [-0.02, 0.47]), though it is significant at the 0.10 level (p = 0.07). This result is inconsistent with H_{1B}.

Heterogeneity in the Effect of Weak Tie Appeals on Motivation to Endorse Protest

Since the main analysis only revealed a difference between motivation to protest, the heterogeneity analyses conducted in order to test $H2$ and $H3$ were conducted with motivation to endorse protest as the dependent variable. Figure 4.6 shows the results for the test of H_{2A}. The figure shows that level of engaged norms is strongly positively correlated with the treatment effect only for Korean subjects, with a one unit increase

in the engaged norms index resulting in an increase in the ATE by 0.13. This correlation narrowly misses significance at the 0.05 level for a one-sided hypothesis test, but is significant at the 0.10 level (p=0.08). Among Japanese subjects, however, there is a negative correlation between level of engaged norms and the treatment effect, though this relationship does not come close to being statistically significant for a one-sided test (p=0.78). These results provide some support for $H2$.

Figure 4.6: Weak Tie Appeal ATE Conditional on Engaged Norms

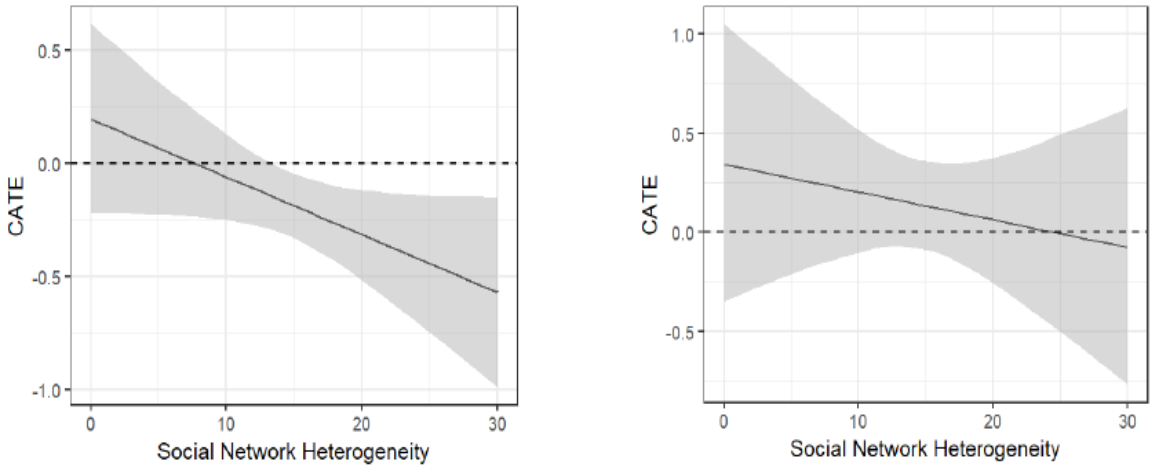


(a) Korea (b) Japan

Figure 4.7 shows the results for the test of H_{3A}. Figure 4.7a shows the predicted conditional average treatment effect (CATE) on motivation to endorse the protest appeal across the full range of social network heterogeneity for Japanese subjects, and Figure 4.7b shows the same for Korean subjects. As predicted by H_{3A}, a one unit increase along the 0-30 scale of network heterogeneity resulted in a roughly 0.03 decrease in motivation to endorse a protest when posted by an acquaintance among Japanese subjects, and this effect is statistically significant at the 0.05 level (p = 0.03). This point estimate may not seem like a substantially large effect, but, as Figure 4.7a makes clear, those with the most heterogeneous networks exhibit about a 0.5 decrease in motivation to

endorse a protest message posted by an acquaintance. By contrast, Figure 4.7b shows that the corresponding average effect of social network heterogeneity for Korean respondents is 0.009, a fraction of that for Japanese subjects (p = 0.66), suggesting that network heterogeneity has a net neutral effect on motivation to endorse a protest post among Korean subjects, contrary to H_{3B}.

Figure 4.7: Weak Tie Appeal ATE Conditional on Network Heterogeneity



(a) Japan (b) Korea

The heterogeneity analysis was conducted with the participatory norms variable, but this specification introduced a variance inflation factor of more than 20 on some of the variables, indicating the presence of significant multicollinearity. Accordingly, these results are excluded from the analysis.

Mediation Analysis

The theory developed in chapter 2 suggests that the treatment effect observed for Korean subjects should be in part mediated by engaged norms. As of yet, there is no widely accepted method of causal mediation analysis (Lupu, 2012). However, the poten-

tial outcomes framework does provide a way to assess the degree to which a given effect is causally mediated.

Let $T_i \in \{0,1\}$ indicate the treatment status of the ith unit, let Y_i represent the outcome for the ith unit, let X_i represent observed pretreatment covariates, and let M_i represent a mediating variable. The total causal effect for the ith unit is then given by

$$\tau_i \equiv Y_i(1, M_i(1)) - Y_i(0, M_i(0)) \tag{4.2}$$

This is the difference in the potential outcome when treatment status is one and the mediator status is one, and the potential outcome when the treatment and mediator are equal to zero. Accordingly, the causal mediated effect for the ith unit is given by $\delta_i(t) \equiv Y_i(t, M_i(1)) - Y_i(t, M_i(0))$, or equivalently, the causal effect of M on Y as M goes from 0 to 1, holding the treatment constant. Finally, the average causal mediation effect (ACME) is given by

$$\bar{\delta}_i(t) = \mathbb{E}\{Y_i(t, M_i(1)) - Y_i(t, M_i(0))\} \tag{4.3}$$

The main obstacle in estimating this quantity is that we can never observe both $Y_i(t, M_i(1))$ and $Y_i(t, M_i(0))$. However, the ACME can still be identified if we assume that $\{Y_i(t', m), M_i(t)\} \perp\!\!\!\perp T_i | X_i = x$, and that $\{Y_i(t') \perp\!\!\!\perp M_i(t) | T_i = t, X_i = x$. This set of assumptions is known as the sequential ignorability (SI) assumption. The first assumption says that the potential outcome given the mth value of the mediator is independent of treatment status conditional on observed covariates. This is guaranteed by the experimental set up. The second assumption in this set implies that the mediator is ignorable given the observed treatment and pre-treatment confounders. This assumption is violated if there are any unobserved pre-treatment or observed post-treatment confounders of the relationship between M and Y. As Imai et al. (2010) shows, if these assumptions hold,

then the ACME is non-parametrically identified.

A method for calculating $\bar{\delta}$ is provided by Imai et al.(2010). This method involves three main steps. First, the treatment and X are regressed on the mediator variable, which in the present case is the engaged norms indicator. In the second step, the treatment variable, mediator, and covariates are regressed on the outcome variable, which in effect provides the outcome when $T = 1$ and $M = 0$, and when $T = 1$ and $M = 0$. The last step here involves finding the average difference between the two sets of outcomes. This is done through the *mediation* package in R. According to Imai et al. (2010), the ACME is estimated by drawing model parameters based on their asymptotic distribution, which Bennett and Segerberg define as the "multivariate normal with mean equal to parameter estimates and variance equal to variance estimate" (Imai et al., 2010, p.5). The ACME is computed for each draw of parameter estimates using the Baron-Kenney procedure (See Imai et al., 2010 for details).

In order to determine if the increased motivation to endorse the protest post among Koreans is to some extent a result of the impact of the treatment on citizenship norms, separate mediation analysis were conducted with each of the citizenship norms indicators as the mediator. The results for when engaged norms is the mediator are shown in Table 4.3 below. They show that the ACME for engaged norms is statistically indistinguishable from 0, with the 95% quasi Bayesian confidence interval ranging from -0.062 to 0.04.

Table 4.3: Results of Causal Mediation Analysis 1 (Korea Only)

***Mediator**: Engaged Norms, **DV**: Motivation to Endorse Protest Post*			
Quantity	**Estimate**	**95% Lower CI**	**95% Upper CI**
ACME	-0.008	-0.062	0.04
ADE	0.188	-0.035	0.43
Total Effect	0.180	-0.036	0.41
Prop. Mediated	-0.029	-0.985	0.32
Observations	274		

Note: *p<0.1; **p<0.05; ***p<0.01

Table 4.4 shows the results of the causal mediation analysis when the participatory norms variable is the mediator. Looking at the estimate for the ACME , we see that each additional increase in engaged norms resulted in a 0.04 boost in the treatment effect. This effect is statistically significant at the 0.05 level. Further, the coefficient on "Proportion Mediated" suggests that about 22% of the total effect of the treatment on motivation to endorse social media protest post is mediated by engaged norms, though this estimate is only significant at the 0.10 level.

Table 4.4: Results of Causal Mediation Analysis 2 (Korea Only)

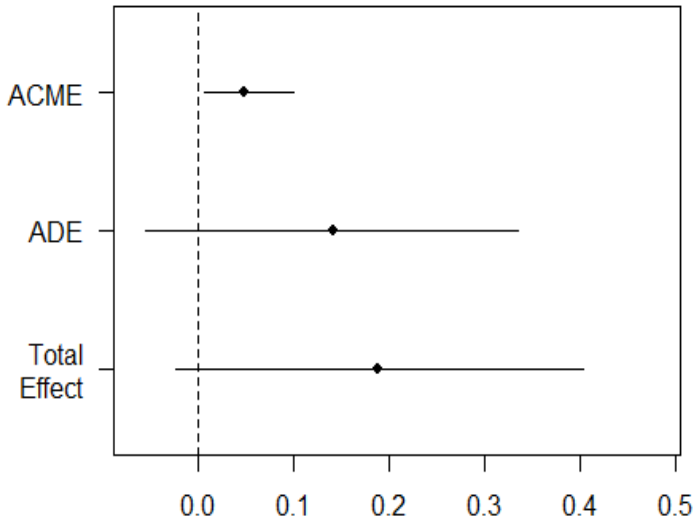
***Mediator**: Participatory Norms, **DV**: Motivation to Endorse Protest Post*			
Quantity	**Estimate**	**95% Lower CI**	**95% Upper CI**
ACME	0.048**	0.005	0.10
ADE	0.140	-0.055	0.330
Total Effect	0.188*	-0.023	0.40
Prop. Mediated	0.22*	-0.46	2.37
Observations	274		

Note: *p<0.1; **p<0.05; ***p<0.01

The results shown are partially plotted in Figure 4.8. Figure 4.8 confirms that, while the direct effect of participatory norms is only marginally significant, when activated by the treatment participatory norms do result in a higher treatment effect. This same

analysis was conducted with the engaged norms variable as the mediator, but none of the resulting coefficients approached statistical significance. This suggests that it is not citizens beliefs about the type of actions required of a good citizen, but rather citizens' general belief that being active in politics, in some fashion, is a normative behavior.

Figure 4.8: Average Causal Mediated Effect of Participatory Norms (Korea)



The same causal mediation analysis that produced the results in Table 4.3 were conducted for Japanese respondents. The results of this analysis are displayed in Table 4.5. They show that, in contrast to the results for the Korean data, participatory norms do not mediate the treatment effect.

Table 4.5: Results of Causal Mediation Analysis (Japan Only)

***Mediator**: Participatory Norms, **DV**: Motivation to Endorse Protest Post*			
Variable	**Estimate**	**95% Lower CI**	**95% Upper CI**
ACME	-0.012	-0.0530	0.01
ADE	-0.157*	-0.301	-0.02
Total Effect	-0.176*	-0.322	-0.04
Prop. Mediated	0.110	-0.098	0.47
Observations	714		

Note: *p<0.1; **p<0.05; ***p<0.01

Another aspect of the main results that requires explaining is the negative impact of the treatment on motivation to endorse the protest appeal. One possible explanation here is that the treatment is having this negative effect on some Japanese because the treatment triggers an opinion expression-avoiding response. The logic here is that, since protesting is not a normative behavior, being associated with a protest event will make individuals more reluctant to endorse the protest publicly on social media. In order to probe this possibility, a another mediation analysis is conducted on the subset of Japanese respondents, wherein the mediator is a survey item that measures the extent to which respondents avoid expressing their political opinions because they are worried about how others perceive them.

Sensitivity Analysis

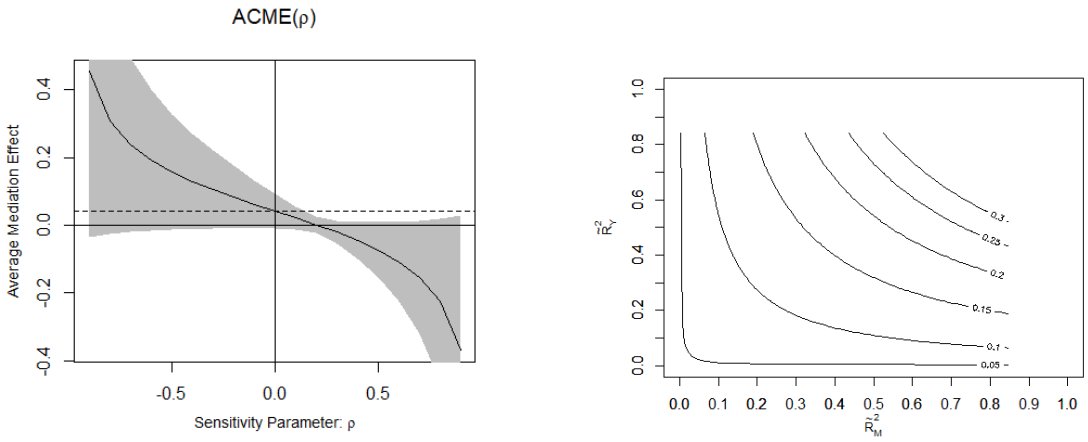
I assess the sensitivity of the results of the causal mediation analysis using the procedure developed by Imai et al.(2010). This procedure involves generalizing the Baron-Kenney procedure used to estimate the ACME into the following linear structural equation model:

$$M_i = \alpha_2 + \beta_{2i} T_i + \nu_2^{\intercal} X_i + \epsilon_{i2} \tag{4.4}$$

$$Y_i = \alpha_3 + \beta_{2i} T_i + \gamma_i M_i + k T_i M_i + \nu_3^{\intercal} X_i + \epsilon_{i3} \tag{4.5}$$

In this setup, the sensitivity parameter is defined as the correlation between the error terms of the two models, or $cor(\epsilon_{i2}, \epsilon_{i3})$, which is notated as ρ. Note that the SI assumption implies ρ=0. The *mediation* package in R employs an iterative algorithim to calculate estimates of the ACME across a range of values of ρ. The more variation in the estimates produced from this procedure, the more likely the original ACME estimates are to be affected by potential confounding variables.

The results of the sensitivity analysis are shown in Figure 4.9. Figure 4.9 shows how the ACME varies by the strength of the correlation between the error terms (ρ) in the two steps of the equations used to calculate the ACME. We see that the 95% confidence intervals cross the x axis across the range of values of ρ, indicating that they are not statistically significant.



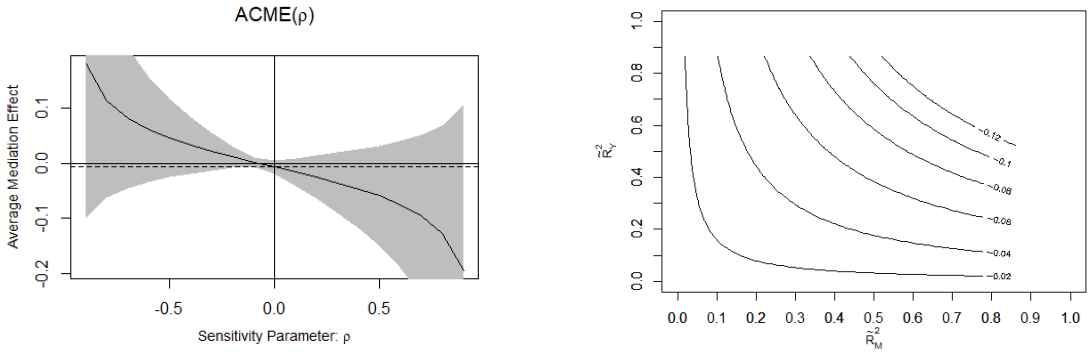
(a) ACME by ρ

(b) ACME by Proportion of Variance in M and Y Unexplained by Confounder

Figure 4.9: ACME Sensitivity Analysis

The results of the sensitivity analysis for the Japanese data are shown in Figure 4.10.

As with the results for the Korean data, they suggest that the mediation analysis above should be taken with a grain of salt, since they appear to be quite sensitive to potential confounders.



(a) ACME by ρ

(b) ACME by Proportion of Variance in M and Y Unexplained by Confounder

Figure 4.10: ACME Sensitivity Analysis (Mediator: Participatory Norms)

While the sensitivity analysis casts doubt on the mediating relationship, it is does not necessarily mean that engaged or participatory norms do not mediate the observed relationship. Future studies should consider nested randomization and related designs to as to limit the potential influence of confounding variables, such as a parallel or crossover design, as suggested by Imai et al. (2013)

4.4.3 Alternative Explanations: Trust in Institutions

One possible alternative explanation of the results is that engaged or participatory norms are just a reflection of levels of trust in political institutions. This would be the case if, for example, the main reason people think protesting is a normative activity is because political institutions, like political parties or the legislature, are deeply distrusted, hence the onus is on the citizenry to take direct action if political change is to be carried out.

Fortunately, the instrument includes measures of trust in some prominent political institutions. This was measured by four items that asked respondents the extent to which they trusted each institution on a 0 to 10 scale. The results of an OLS regression of this trust variable on country dummies and covariates is shown in Table 4.6. The results show that Koreans do indeed have lower levels of trust in political parties and the legislature than do Japanese respondents, with Korean respondents scoring on average just under 1/2 point lower than their Japanese counterparts.

Table 4.6: Differences in Average Level of Trust in Institutions

	Dependent variable: Trust in...			
	Parties	Legislature	Executive	Citizens Groups
	(1)	(2)	(3)	(4)
Korea	−0.417***	−0.487***	0.510***	0.946***
	(0.127)	(0.122)	(0.136)	(0.132)
Age	−0.007	−0.037	−0.052	0.061
	(0.043)	(0.041)	(0.046)	(0.045)
Sex	0.434***	0.273**	0.549***	−0.001
	(0.114)	(0.110)	(0.122)	(0.119)
Education	−0.127**	−0.081	−0.038	−0.150**
	(0.060)	(0.057)	(0.064)	(0.062)
Income	0.386***	0.333***	0.335***	0.377***
	(0.059)	(0.057)	(0.063)	(0.062)
Ideology	0.234***	0.245***	0.349***	−0.081***
	(0.028)	(0.027)	(0.030)	(0.029)
Constant	1.503***	1.344***	0.720**	3.000***
	(0.298)	(0.286)	(0.320)	(0.311)
Observations	1,492	1,492	1,492	1,492
R^2	0.094	0.097	0.117	0.061
Adjusted R^2	0.090	0.094	0.114	0.057
Residual Std. Error (df = 1485)	2.160	2.072	2.314	2.252
F Statistic (df = 6; 1485)	25.685***	26.700***	32.857***	16.155***
Note:				*p<0.1; **p<0.05; ***p<0.01

However, if this alternative interpretation of the main results of this chapter is correct, then we should expect level of institutional trust to explain a large amount of the variance in citizenship norms. In order to evaluate this possibility, the engaged norms and participatory norms variables were regressed on institutional trust along with relevant

covariates for the subset of the Korean data. The results are shown in Table 4.7.

Table 4.7: Impact of Trust on Participatory and Engaged Norms (Korea Only)

	Dependent variable:	
	Participatory Norms	Engaged Norms
Trust in Legislature	-0.201^{***}	-0.121^{***}
	(0.047)	(0.045)
Trust in Parties	0.069	0.105^{**}
	(0.047)	(0.046)
Trust in Executive	0.145^{***}	0.096^{***}
	(0.036)	(0.035)
Constant	5.709^{***}	1.410^{***}
	(0.251)	(0.245)
Observations	413	413
R^2	0.105	0.088
Adjusted R^2	0.087	0.070
Residual Std. Error (df = 404)	1.122	1.094
F Statistic (df = 8; 404)	5.933^{***}	4.883^{***}
Note:		*p<0.1; **p<0.05; ***p<0.01

Looking at adjusted R-squared in Table 4.6 we see that all of the variables combined explain only about 8% of the variance in the participatory norms variable, and about 7% of the variance in the engaged norms variable. Additionally, the lack of statistical significance and the variance in the signs on the coefficients suggest that, while these variables are related in some fashion, citizenship norms are not simply a function of trust in institutions.

4.5 Discussion

The results of the analyses broadly confirm theoretical expectations. As expected, weak tie appeals to engage in protest elicit a stronger effect on motivation to endorse among Koreans than Japanese. Further, the heterogeneity analyses shows that the effect of weak tie appeals is positively correlated with level of engaged norms in Korea, whereas there is no statistically significant correlation in Japan, also supporting theoretical expectations about the conditional effect of individual level of engaged norms. Similar results were found for social network heterogeneity, though the lack of a significant association between network heterogeneity and treatment effect warrants further investigation. Finally, the mediation probe suggests that the observed treatment effect among Korean respondents is mediated by citizenship norms.

The results of the analyses largely confirm the hypotheses. One thing that remains to be explained, however, is the lack of a difference between the two countries in boycotts and petitions. It could be simply that they are not risky, hence association with these activities does not warrant sufficient fear of social censure. Also, many not have stigma like protest. Alternatively, it could be that, while the there is no difference in the effect of the treatment, both baseline and treatment level effects are sufficiently low that virality does not happen in Japan.

Another finding that warrants further investigation is the lack of a positive effect of network heterogeneity in Korea. It is possible that the Korea's collectivist culture somewhat depresses the expected positive effect of social network heterogeneity, but that, in aggregate, the broader political culture compensates for this effect. Alternatively, it could simply be an artifact of the sample size, which, while not small, is limited.

4.6 Chapter 4 Conclusion

The results presented here suggest that weak tie appeals to engage in protest are more effective in high engaged norms contexts than in low engaged norms contexts. Indeed, their effect is contingent upon the digital environment in which they are situated, as well as the network effects that accompany that digital environment type. Future studies ought to seek to more fully understand digital environments and the way individuals participate in digitally-mediated politics. One way to begin to do this is by taking into account the way political culture shapes the experience of the digital public sphere.

Chapter 5

Analysis of EASS Data

5.1 Introduction

In this chapter I focus on evaluating postulates 2 and 3 by formulating and testing hypotheses regarding the relationship between social network composition and participation in collective action. Drawing on social network data from the 2012 EASS, I show that the effects of social network size and social network heterogeneity on on-the-ground participation do indeed vary by aggregate citizenship norms.

5.2 Hypotheses

Recall that postulate 2 states that social network size will be more strongly correlated with participation in collective action in high engaged norms contexts than in low engaged norms contexts. That is, even supposing that social network size has a positive effect in general, it should have a more strongly positive effect in Korea than it does in Japan because it has higher aggregate levels of engaged norms. Here, I operationally define participation in collective action as on-the-ground or "real world" (not social media

endorsement, as in the previous chapter) participation in protests, boycotts, or petitions, which I will refer to as PBP (protest, boycotts, and petitions). Here, the various actions types are considered together, rather than separately as in the preceding chapter, because this is how the corresponding survey item is structured in the instrument.

H1: Social network size is more strongly associated with participation in PBP in Korea than it is in Japan.

Next, recall that postulate 3 states that social network heterogeneity will have a stronger effect on participation in collective action in high engaged norms contexts. Again, defining participation in collective action as participation in PBP, we should expect social network heterogeneity to be more strongly correlated with individual-level participation in PBP in Korea than in Japan.

H2: Social network heterogeneity has a positive association with participation in collective action in Korea, and a negative association in Japan.

5.3 Data and Method of Analysis

As described in chapter 3, the data for this analysis come from the 2012 East Asian Social Survey (EASS). The primary dependent variable is a dichotomous indicator that takes on the value of 1 if a respondent participated in PBP, and a value of 0 otherwise. The main independent variables are social network size, as indicated by respondents' self-reported number of contacts, and social network heterogeneity as indicated by respondents' self-reported group diversity. It is important to note that the social network size item explicitly asks for online and offline contacts This is critical for the present study, since the effect of ICT use is largely a byproduct of the numerous thin-tie contacts that it makes possible. Hence, I am here testing the extent to which this true in two

different contexts. I test H1 by estimating the following model with logistic regression:

$$PBP_i = \alpha_0 + \alpha_1 C_i + \alpha_2 S_i + \alpha_3 C_i * S_i + \mathbf{X}\gamma + \epsilon_i \tag{5.1}$$

Where S_i is the size of the ith individual's social network, C_i is a country dummy, $\mathbf{X}$ is a matrix of covariates, γ is a vector of coefficients, and PBP_i is an indicator of the extent of participation in PBP. In this model, α_3 gives the average difference in the effect of network size between the two countries. For H2 I run models similar to that shown in equation 1, with the exception that the network size variable is replaced with the social network heterogeneity variable. I follow up the main results with a series of robustness checks that are discussed in detail below.

5.4 Results

Model 1 in Table 5.1 shows the results for the test of H1, which are supportive. The Korea-Network Size interaction term shows the difference in the effect of social network size on PBP between the two countries. Looking at model 1 in Table 5.1, we see that this coefficient is positive and statistically significant at conventional levels, indicating that social network size is more strongly correlated with PBP than it is in Japan.

Table 5.1: Results for Regression of Participation in PBP and Political Groups on Social Network Size

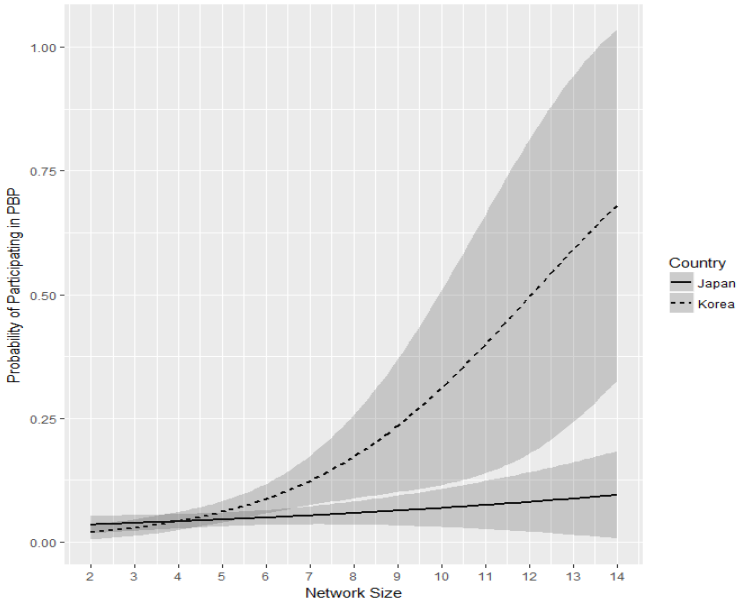
	Dependent variable	
	PBP	Participation in Political Group
Model	(1)	(2)
Korea	-1.564^{**}	0.366
	(0.635)	(0.604)
Network Size	0.088	0.110^{*}
	(0.058)	(0.067)
Korea*Network size	0.299^{***}	0.066
	(0.111)	(0.111)
Age	0.007	0.025^{***}
	(0.007)	(0.007)
Sex (Female)	-0.012	-0.325^{*}
	(0.178)	(0.191)
Education	0.096	0.090
	(0.079)	(0.081)
Political Interest	-0.401^{***}	-0.337^{***}
	(0.068)	(0.067)
Constant	-2.630^{***}	-4.140^{***}
	(0.781)	(0.864)
Observations	2,386	2,383
Log Likelihood	-527.153	-486.964
McFadden's R^2	0.355	0.323

Note: Standard errors are shown in parentheses. *p<0.1; **p<0.05; ***p<0.01

In order to better illustrate the difference in the effect of network size on participation in PBP, the predicted probability of participating in PBP is plotted against social network size in Figure 5.1. The predicted probabilities are roughly equal until the so-

cial network size variable reaches 7, at which point they diverge. In Korea, the effect of social network size on participation in PBP increases dramatically thereafter, with the predicted probability going from 10% to when the social network size variable is equal to 6, to about 30% when it equals 10. By contrast, in Japan the predicted probability of participating in PBP goes from about 5% to about 7% over the same interval. While the confidence intervals are fairly large, these results are statistically significant at the 0.01 level, and they strongly suggest that social network has a stronger impact on the likelihood of participating in PBP in Korea, conforming to H1.

Figure 5.1: Predicted Probability of Participation by Network Size



By contrast, the results for Model 2 in Table 5.1 show that the coefficient on the Korea/Network Size interaction term does not reach statistical significance when participation in a political group is the dependent variable, though it is in the expected positive direction. It is interesting to note that social network size appears to have a positive association with participation in political groups in both countries, though it does not have such an association with participation in PBP. Moreover, the individual-level variables,

like age and sex, appear to be more strongly associated with participation in political groups, but not for participation in PBP. The coefficient on political interest is negative, but this is a result of the coding of this variable, since higher values indicate less interest.

Model 1 in Table 5.2 shows the results for H2. For Model 1, the coefficient on the Korea-Network Heterogeneity variable is positive, as expected, but it is not statistically significant ($p = 0.218$). The results for Model 2, on the other hand, lend stronger support for H2. In Model 2, the coefficient on Korea*Network Heterogeneity is positive and statistically significant at the 0.05 level.

Table 5.2: Results for Regression of Participation in PBP and Political Groups on Social Network Heterogeneity

	Dependent variable	
	PBP	Participation in Political Group
Model	(1)	(2)
Korea	−0.485	−0.598
	(0.481)	(0.491)
Network Heterogeneity	−0.099	−0.334*
	(0.155)	(0.186)
Korea*Network Heterogeneity	0.131	0.536**
	(0.218)	(0.226)
Age	−0.002	0.021***
	(0.007)	(0.008)
Sex(Female)	−0.031	−0.255
	(0.190)	(0.199)
Education	0.036	0.053
	(0.084)	(0.084)
Political Interest	−0.389***	−0.331***
	(0.073)	(0.069)
Constant	−0.964	−2.237***
	(0.791)	(0.858)
Observations	1,687	1,684
Log Likelihood	−443.686	−424.037
McFadden's R^2	0.457	0.411

Note: Standard errors are shown in parentheses. *p<0.1; **p<0.05; ***p<0.01

In order to better illustrate the difference in the effect of social network heterogeneity on participation in political groups, the predicted probability of participating in a political group is plotted against social network heterogeneity in Figure 5.2. In order to calculate

the predicted probabilities, sex is set to "Male", and the other variables are set to their respective means for each country. This applies to all predicted probabilities graphed in this chapter.

Figure 5.2: The Marginal Effect of Social Network Heterogeneity on Participation in Political groups By Country

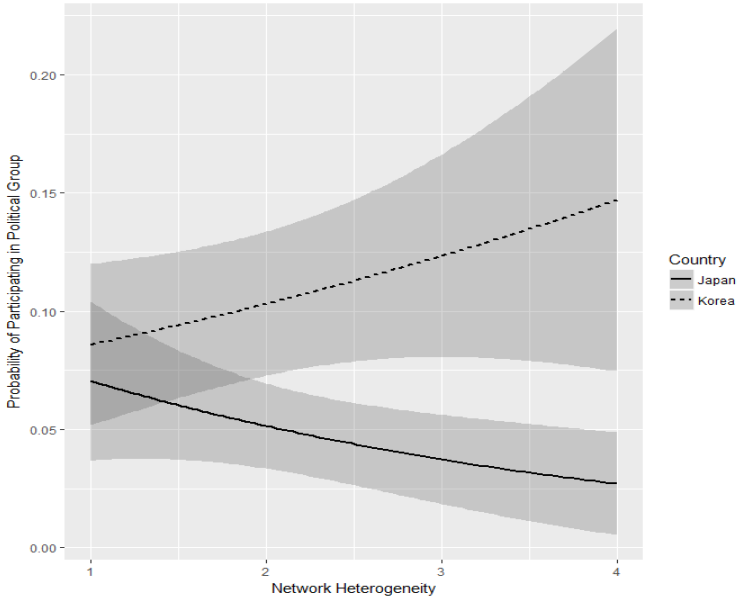


Figure 5.2 shows that increasing network heterogeneity has a negative effect on probability of participating in political groups in Japan, whereas it has a positive effect in Korea. In Korea, as social network heterogeneity increases from 1 to 4, we see about a 5% increase in the probability of participating in a political group. For the Japanese data, we see an approximately 4% decrease in the probability of participating in a political group over the same interval, going from a roughly 6% chance of participating to about a 2% chance.

5.4.1 Robustness Checks

I conduct two main sets of robustness checks for my models. In the first, I run the same main models that were estimated for H1 and H2 separately for each country. In the second set of checks, I run these same models with prior corrections, as specified in King and Zeng (2001). Essentially, this consists of estimating a logit model that is weighted by prior probabilities of the dependent variable, so as to counteract the bias resulting from the underreporting of rare events.

Individual Country Models

The results for individual country models are shown in Table 5.3. The results largely corroborate those of the pooled models, in so far as network size has a clearly positive and statistically significant association with both outcome variables in Korea, whereas in Japan it has a null relationship with both outcome variables. And, similar to the results for the pooled models, social network heterogeneity has a negative and statistically significant effect in Japan, but only when participation in the political group is the dependent variable.

Table 5.3: Results for Regression of Participation in PBP and Political Groups on Social Network Size and Heterogeneity (Separate Country Models)

	Korea		*Japan*	
Dependent Variable	PBP	Pol. Grp.	PBP	Pol. Grp.
Model	(1)	(2)	(3)	(4)
Network Size	0.360^{***}	0.156^{*}	0.090	0.074
	(0.099)	(0.094)	(0.074)	(0.083)
Network Heterogeneity	-0.035	0.166	-0.086	-0.442^{**}
	(0.158)	(0.131)	(0.173)	(0.211)
Age	-0.003	0.010	0.005	0.037^{***}
	(0.017)	(0.014)	(0.010)	(0.012)
Sex (Female)	-0.689^{*}	0.084	0.445^{*}	-0.218
	(0.373)	(0.303)	(0.264)	(0.301)
Education	-0.028	-0.088	-0.041	0.113
	(0.159)	(0.132)	(0.133)	(0.151)
Income	0.037	0.022	0.040	0.062
	(0.036)	(0.032)	(0.043)	(0.047)
Political Interest	-0.221^{**}	-0.296^{***}	-0.526^{***}	-0.389^{***}
	(0.101)	(0.087)	(0.120)	(0.132)
Constant	-3.515^{**}	-2.837^{**}	-1.838	-4.133^{***}
	(1.611)	(1.356)	(1.212)	(1.427)
Observations	657	657	829	828
Log Likelihood	-137.921	-181.603	-229.112	-188.209
McFadden's R^2	0.532	0.390	0.561	0.553

Note: Standard errors are shown in parentheses. *p<0.1; **p<0.05; ***p<0.01

One interesting point that the split models make clear is the different effect of sex in each country. As Table 5.3 shows, sex has opposite effects in Korea and Japan: being female has a positive effect on participation in PBP in Japan and a negative effect in

Korea, though the coefficients do not quite reach statistical significance. This is perhaps not surprising given patterns of participation in the two countries. As Ikeda (2012) notes, strong tie networks–those that consist of family and close friends–tend to depress participation, particularly for women, since they tend to be excluded from formal modes of participation as Japan's collectivist and patriarchal culture. This very exclusion may have the unintended consequence of opening up non-traditional participation to females. Indeed, there are several examples of female-led collective action, such as the Seikatsu Club, or the recent anti-nuclear protests that featured female leaders (Ogawa, 2015). A second point of interest is that the coefficients on age, income, and education are not significant for any of the models that include PBP as the dependent variable. Since these three variables tend to predict internet use, their lack of statistical significance implies that the differences in participation PBP are not simply a result of different rates of internet use. logit with prior correction.

As King and Zeng (2001) note, analyses performed on rare events data are subject to bias, even when the sample size is in the thousands (King & Zeng, 2001). Specifically, they argue that bias in the reported average frequency of events can result in biased estimates of regression coefficients. In practice, this often means that the probabilities resulting from logistic regression or probit models are underestimated (King & Zeng 2001, p.138).

The present case is no exception. Participation in PBP is indeed rare; the rate of participation in PBP does not exceed 6% in either country, meaning that there are fewer than 200 instances of participation in PBP in Japan in Korea as reported in the EASS. In order to account for this two sets of logistic regressions with prior corrections were conducted. The logic of this approach is that the accuracy of the logit coefficients can be improved by taking into account prior knowledge of the percent of the population that participated in each type of collective action. Of course, we do not know the corresponding

population parameters, but we can use the upper and lower limits of the 95% confidence intervals of the dependent variable as given by the EASS to get a sense of how sensitive the logit coefficients and the corresponding predictions are to variation in them.

The models shown in Table 5.3 were re-estimated with this these prior corrections. The full results of these tests are shown in Table 5.4, where τ indicates the value of the dependent variable that was used for prior correction. The results are nearly identical to the ordinary logistic regression results across all models, with the most notable exception being that the coefficient on network heterogeneity in Japan is no longer significant when priors are accounted for, as shown in Model 4 in Table 5.4. This may be a consequence of the fact that participation in a political group includes both traditional and non-traditional forms of participation. It might be the case the negative association between heterogeneity and participation in Japan really only holds true for traditional forms of political participation.

Table 5.4: Results for Regression of Participation in PBP and Political Groups on Social Network Size and Heterogeneity With Prior Corrections (Separate Country Models)

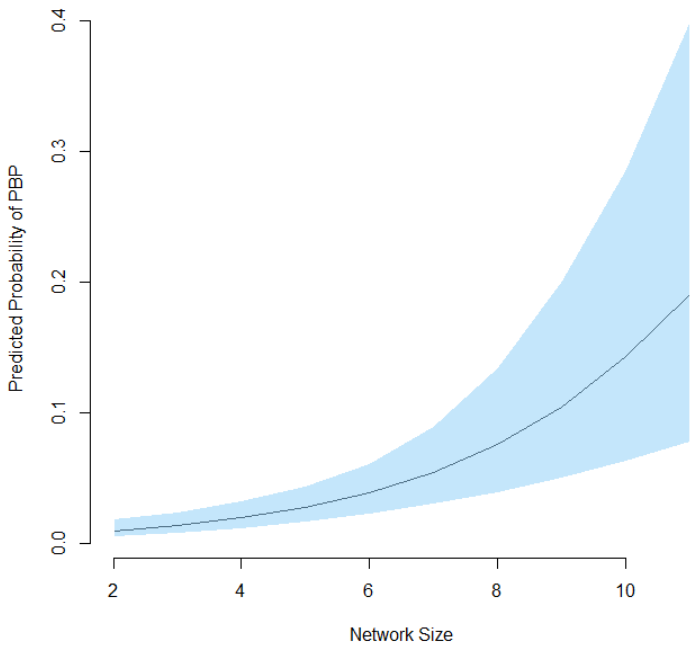
	Dependent Variable: PBP			
	Korea		*Japan*	
tau	Upper Limit	Lower Limit	Upper Limit	Lower Limit
Model	(1)	(2)	(3)	(4)
Network Size	0.350***	0.352***	0.091	0.091
	(0.099)	(0.099)	(0.074)	(0.083)
Network Heterogeneity	−0.030	−0.027	−0.079	−0.081
	(0.158)	(0.160)	(0.173)	(0.173)
Age	−0.002	-0.002	0.005	0.005
	(0.017)	(0.017)	(0.010)	(0.010)
Sex (Female)	−0.670*	−0.660*	0.441*	0.441*
	(0.373)	(0.373)	(0.264)	(0.264)
Education	−0.024	−0.023	−0.039	−0.039
	(0.159)	(0.159)	(0.133)	(0.133)
Income	0.037	0.037	0.039	0.039
	(0.036)	(0.036)	(0.043)	(0.043)
Political Interest	−0.221**	−0.212***	−0.518***	−0.518***
	(0.101)	(0.100)	(0.120)	(0.120)
Constant	−3.903**	−3.437**	−2.091	−2.435
	(1.610)	(1.610)	(1.212)	(1.212)
Observations	657	657	829	828
Log Likelihood	−137.921	−181.603	−229.112	−188.209

Note: Standard errors are shown in parentheses. *p<0.1; **p<0.05; ***p<0.01

In order to provide a graphical demonstration of these results, Monte Carlo simulations were performed with the Zelig package in R, using the model estimated with

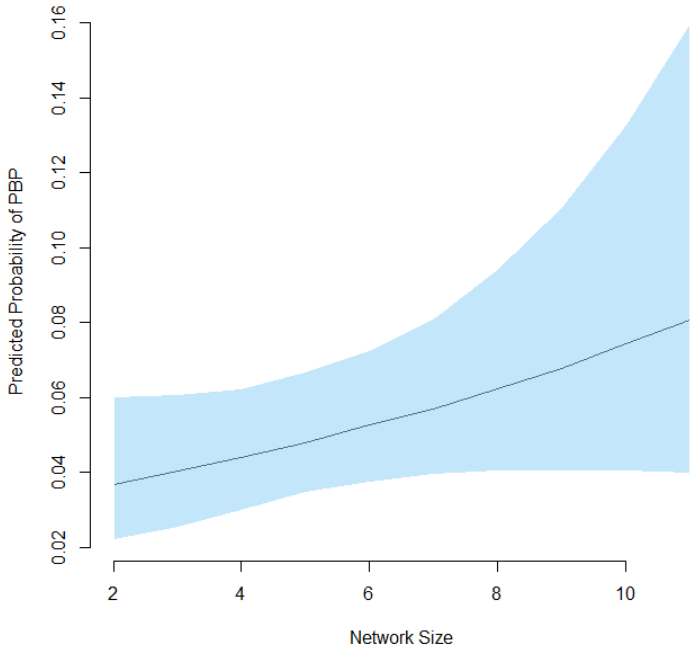
the upper limit of the population parameter estimates, since it is prior underestimation that is expected to be the source of inaccuracy of the logit coefficients. Figure 5.3 shows the expected probabilities of participating in PBP conditional on social network size for Korean respondents, and Figure 5.4 shows the same for Japan.

Figure 5.3: Simulated Marginal Effect of Network Size on Participation in PBP (Korea)



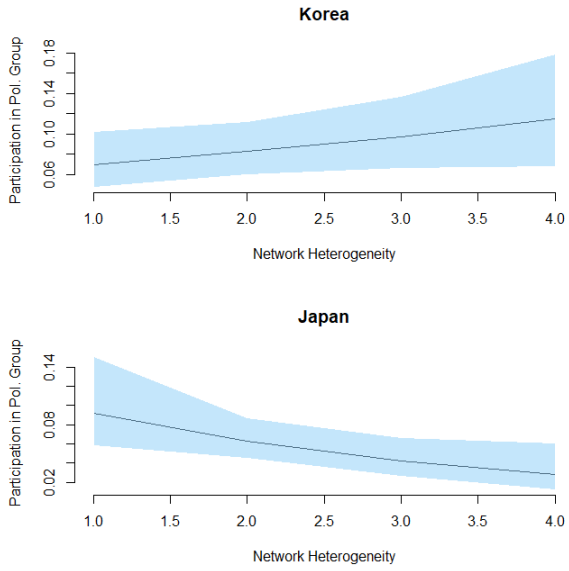
Similar to the results above, the curve for the Korean data shows a much starker increase in the expected value of participating in PBP relative to that shown in Japan over same interval, though this increase is somewhat less extreme than that in Figure 5.1. In Korea, an increase from a social network size of 6 to 10 corresponds to an almost 10% increase in the probability of participating in PBP. For the Japanese data, the same increase in social network size results in only a 2% increase in the probability of participating in PBP.

Figure 5.4: Simulated Marginal Effect of Network Size on Participation in PBP (Japan)



The simulations also show similar results for network heterogeneity. Figure 5.5 shows the results of simulations conducted using the upper limit of participation in political groups for both countries. Overall, the results are largely consistent with the results above, in so far as increasing network heterogeneity appears to have a negative effect on participation in political groups in Japan, whereas it appears to have a positive effect in Korea.

Figure 5.5: Simulated Marginal Effect of Network Heterogeneity on Participation in Political Groups by Country



5.5 Discussion

With regard to social network size, the results of the analysis unambiguously show that there is a stark difference in the effect of social network size on participation in PBP between Japan and South Korea. This has direct implications for emerging theories of collective action. ICT use is theorized to facilitate collective action by connecting geographically and socially disparate individuals. However, that disparate individuals are connected through ICT does not guarantee that they engage in collective action together at the same rate across national contexts. In the present case, this might be due to differences in the importance of the type of ties that connect individuals. The ties formed through ICT tend to take the form of weak social ties (Kakuko, 2010). One possible explanation of the differences between these two countries, then, is that thin ties are simply not as conducive to collective action in Japan as they are in Korea. While

use of ICT increases one's contacts in both countries, it might not result in increases in collective action in Japan because Japanese require a higher amount of trust in a given contact in order to engage in political action with them, and the thin ties created through ICT do not satisfy this requirement. It is possible that this same dynamic inhibits sharing of personal action frames on social media, hence constrains digitally networked action.

The results for network heterogeneity generally conform to theoretical expectations, though they are somewhat more mixed. While the analysis shows a negative association between PBP and social network heterogeneity in Japan, this result does not pass the test of statistical significance. On the other hand, there does appear to be a significant negative association between participation in political groups and network heterogeneity in Japan, whereas there is a positive association between the two variables in Korea. This result makes sense, given the important role of organizational affiliation plays in political participation in the two countries (Lee, 2016; Jeong 2013). That is, since Japanese tend to get involved in politics through non-political organizational contacts, it stands to reason that the most common place of political action would also be another organization, and then only by extension in collective action, rather than being directly propelled into a collective or connective action. Conversely, Japanese with non-political organizational affiliates that hold views contrary to their own tend to participate less in political groups compared to their Korean counterparts, but not necessarily in collective action writ large.

5.6 Chapter 5 Conclusion

The results of this chapter have two main implications. First, the lack of convergence in collective action rates between two countries that share numerous important contextual similarities implies that scholars can no longer treat the effect of ICT on collective action as universal or unmoderated. The use of ICT may connect disparate individuals, but

the scaling-up of action through thin ties that networked action depends upon may be more sensitive to the types of networks in which citizens are situated than previously acknowledged, and that the degree to which this matters can vary greatly across otherwise similar cultural contexts (Bennett & Segerberg, 2013; Bimber, 2017). Although ICT greatly enhances the potential number of weak-tie relationships any given individual can have, these ties may not induce enough interpersonal trust to stimulate collective or connective action in the absence of certain political norms.

Second, there is still much we do not know about the relationship between social network heterogeneity and participation in collective action (Siegel, 2009). The results of this chapter suggest that network heterogeneity facilitates collective action, but not universally so, and that this variation is in part a consequence of relatively subtle differences in political culture. In particular, the results presented here suggest that differences in the extent to which citizens share a norm of participatory democracy can lead to striking differences in the extent to which social network heterogeneity exerts a positive or depressive effect on political action, hence may also exhibit a similar effective on the extent to which it contributes to or restricts the type of social sharing that drives connective action.

Chapter 6

Large-N Study

6.1 Introduction

In this chapter I evaluate the extent to which the theoretical framework proposed in chapter 2 is generalizable to a broader set of cases. To this end, I examine the way citizenship norms interact with technology use to exert an effect on participation in PBP in a broader set of cases.

6.2 Hypotheses

If the results of the preceding chapters are indicative of the broader relationship between technology use and participation in collective action, then we should expect to see the same relationships in a larger set of cases. Namely, we should expect to find that social network size and heterogeneity are more strongly correlated with participation in collective action in countries with high engaged or participatory citizenship norms. Unfortunately, there is currently no publicly available data set that contains measures of social network variables for a large number of countries.

However, the World Values Survey does include a number of measures of technology use, which, as discussed in chapter 2, is known to be strongly associated with social network size and heterogeneity. Thus, we can use these measures of technology use as a kind of proxy for social network heterogeneity and social network size. An examination of the relationship between technology use and participation in collective action should provide an exploratory test of the generalizability of the explanation of the theory proposed in chapter 2.

I now consider the testable implications of the three postulates elaborated in chapter 2. Firstly, we should expect ICT use to be more strongly associated with participation in collective action in countries with high levels of engaged norms. This follows from the observation that use of ICT is strongly associated with social network size and heterogeneity (e.g., Kim et al., 2013). Now, the preceding chapters have demonstrated that the effect of social network size and heterogeneity in turn depends upon citizenship norms, such that both variables are more conducive to participation in collective action in contexts characterized by high levels of engaged norms.

H1: ICT use is more strongly associated with participation in collective action in countries with high levels of engaged norms than in countries with low levels of engaged norms.

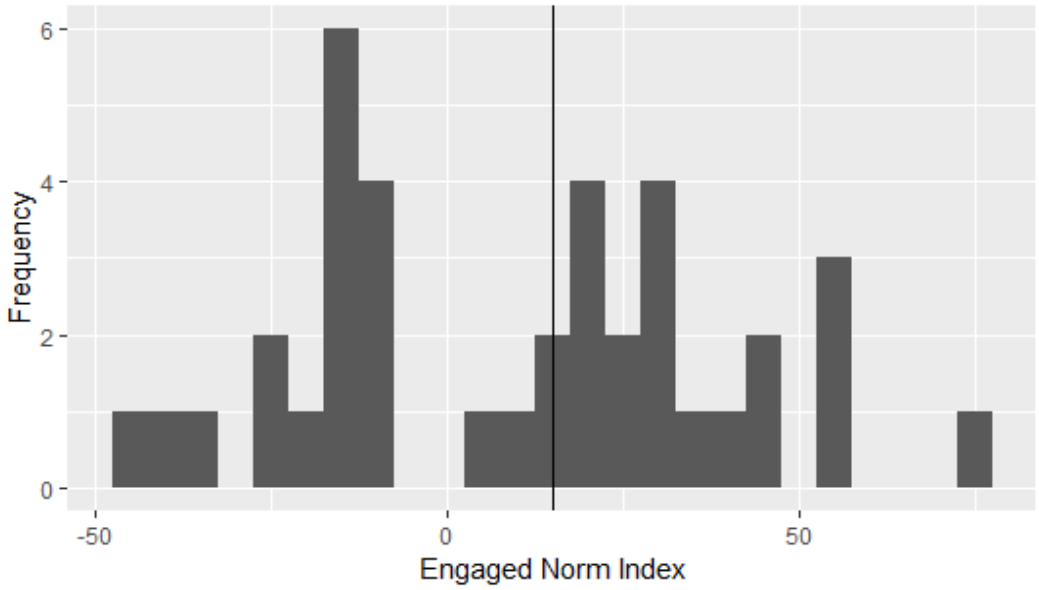
Secondly, I note that this dissertation has not yet considered actual protest data. As King, Keohane, and Verba (1994) point out, one of the ways to test the plausibility of a given theory is to look for observable implications in real world data. One observable implication of the theory laid out in chapter 2 is that, on average, we should expect to see more protest activity in high engaged norms countries.

H2: Protest counts are, on average, higher in high engaged norms countries.

6.3 Data and Method

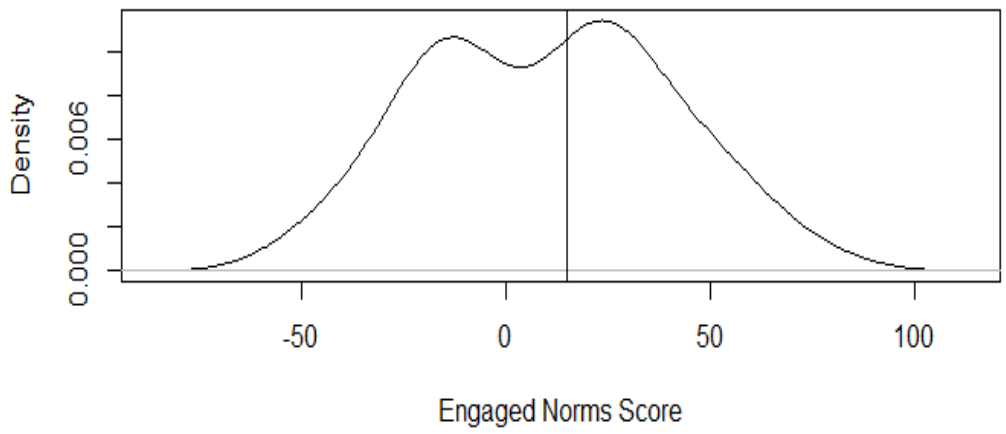
To evaluate the hypotheses, I draw on three sources of data. First, both hypotheses utilize country level aggregate data on citizenship norms is provided by the supplementary data file contained in Hooghe et al. (2016). The data set provided therein contains the distribution of citizenship norms in 38 countries. These distributions are derived from a Latent Class Analysis (LCA) of survey data from the International Civic and Citizenship Education Survey (N=140,650). In contrast to previous studies of engaged citizenship norms (e.g. Dalton, 2008; Copeland and Feezell, 2017), Hooghe et al. find that the dichotomy between engaged and dutiful norms discussed in chapter 2 only describes about 45% of the sample. In addition to these two, Bennett and Segerberg find 3 additional categories: "Respectful," "Subject," and "All-Around". The first two can roughly be categorized as being similar to "Dutiful Norms," in that they disfavor non-institutional participation, whereas the "All-Around" category describes individuals who view both institutional and non-institutional forms of political participation as being normative behaviors. Accordingly, an index of engaged norms is constructed by adding the proportion of "Engaged" and "All-Around" for each country, and then subtracting the sum of the other scores from this sum. This engaged norms index ranges from -47 to 74, has a mean of 10.05 (SD:29.94) and a median of 15. The distribution of this variable is shown in Figure 6.1, with the median value indicated by the vertical line.

Figure 6.1: Histogram of Engaged Norms (Vertical line = median)



In order to distinguish between countries with high levels of engaged norms and those with low levels, a binary variable is constructed form the engaged norms index, where a value of 1 indicates that the country scores above the median (15) and a value of 0 indicates that the country scores below the median. The countries in each group are shown in Table 6.1. The logic behind this approach derives from largely practical considerations. First, it reflects the analytical logic of the previous chapters, which compared a high engaged norms country (South Korea) with a low engaged norms country (Japan). Secondly, as I discuss more below, appropriate data for testing the relationships specified in the hypothesis includes only a small subset of these countries, which means that there is only limited variation in the country-level citizenship norms variables. In the final subsection of this chapter, I supplement this grouping approach with separate models for each citizenship norms variable.

Figure 6.2: Density Plot of Engaged Norms Index (Vertical line = 15)



While the cutoff line of 15–the median value–may seem arbitrary, it actually follows somewhat naturally from the distribution of the scores themselves. Figure 6.2 below shows a density plot of the engaged norms index. The figure suggests that the engaged norms index has something of a bimodal distribution, with one local mode at about -14, and a global mode at about 25. Thus, broadly speaking, the distribution of the data suggest that grouping countries in this manner is appropriate.

Table 6.1: Engaged Norms Score by Country

Low Engaged Norms		**High Engaged Norms**	
Country	Engaged Norms Index	Country	Engaged Norms Index
Italy	15	Mexico	18
Latvia	15	Finland	20
Cyprus	9	Hong Kong	22
New Zealand	7	Estonia	22
Chile	-8	Slovenia	23
Russia	-8	England	24
Malta	-9	Norway	28
Netherlands	-12	Belgium	29
Austria	-13	Spain	29
Lithuania	-13	Ireland	30
Poland	-14	Sweden	35
Colombia	-14	Thailand	40
Indonesia	-14	Greece	45
Luxembourg	-16	Slovakia	47
Guatemala	-22	Bulgaria	55
Switzerland	-25	South Korea	55
Liechtenstein	-26	Czech Republic	57
Paraguay	-34	Taiwan	74
Denmark	-42		
Dominican Republic	-47		

At first glance, the number of democratic countries with low engaged norms scores might be surprising. Denmark, for instance, has one of the lowest scores (-42), whereas Russia, a quasi-Authoritarian country, has a score of -9. Here it is important to remember that a country can obtain a low score in a number of ways. Countries can obtain a low score by exhibiting an aggregate preference for institutional forms of participation, such as is likely in the case of Denmark, which has consistently high voter turnout (International Institute for Democracies and Electoral Assistance, 2019). A country could also obtain a low score by exhibiting an aggregate preference for no participation at all, as suggested by the "Subject" category discovered by Hooghe et al. (2016), which result might obtain in a political context wherein citizens take a more thoroughly passive stance towards

participation in politics. While the distinction between these various cases is important and worthy of study, the present study is agnostic to it, owing to the focus on identifying the differential effects of social norms that favor contentious collective action, and those that do not. I thus leave it to future studies to further explore the implications of these distinctions.

To be sure, a quantitative approach is probably most appropriate for this type of data, and would obviate the need to force countries into odd groupings. However, the constraints imposed by existing data make this a better methodological choice that, while not optimal, is also not entirely at odds with the distribution of the data. It is not meant to suggest that this particular grouping is the natural grouping, or that it would not change were more cases added. Finally, while the exact cut off point is debatable, practically it does not affect the analysis since the only countries close to the cut-off point included in the actual analysis–Hong Kong and Mexico–are much closer to the global mode of 25 than to the low-engaged norms mode of -14.[1]

The data to test H1 is produced by merging the citizenship norms data above with data from the 2014 world values survey (WVS). An indicator of participation in collective action is derived from an item on the WVS that asks respondents whether they have engaged in collective action, and to what extent they would be willing to do so. Responses to this item are recoded so that a value of 0 indicates that a respondent would never engage in the action in question, a value of 1 indicates that they might engage in it, and a value of 2 indicates that they have engaged in the action.

ICT use is measured by an index that is constructed by summing respondents' responses to three survey items that ask the frequency with which respondents use the internet, email, and mobile phone to obtain information. Possible responses to to teach

[1]By this logic, Italy, Latvia, Cyprus, and New Zealand should probably also be included in the high engaged norms category. Yet, at this stage in the development of my theory it seems a safer approach to follow the categorization suggested by the data itself.

of these separate items ranges from "never," which is coded as 0, to "Daily," which is coded as 4. Accordingly, the resulting index has a maximum value of 12 (μ: 5.60,σ:4.48). Individual level controls are added for age, sex, income, education, political ideology, and post-materialist values. At the country level I control for each country's 2012 Freedom House score for level of political rights and civil liberties.

Because the dependent variable is essentially an ordinal variable with three levels, the relationship between ICT use and participation in collective action is estimated with ordinal logistic regression. Specifically, the following model is estimated:

$$ln(\gamma_i^j/1-\gamma_i^j) = \alpha^j - (\alpha_1 E_i + \alpha_2 N_i + \alpha_3 E_i * N_i + \mathbf{X}\beta) \tag{6.1}$$

where $\gamma = P(Y \leq j)$ for each unit i and each category j $\in \{1, .., C-1\}$ for C $\in \{0, 1, 2\}$, E_i is a binary variable that indicates whether the individual lives in a high or low engaged norms country, N_i gives the level of ICT use of the ith individual, and $\mathbf{X}$ is a matrix of covariates. This model is estimated separately for each collective action type (protest, boycott, and petition). All models are estimated using survey weights.

For H2, I merge the citizenship norms with data extracted from the ICWES (Integrated Crisis Events Warning System) data set compiled by Boschee (2018) et al. This data set contains a list of protest events that were identified through machine coding of news articles from a broad array of countries in the world. These events are then summed up for each country to produce protest counts for all days in which there were protests for the years 2010 to 2017. These years are chosen because they coincide with the mass diffusion of social media platforms like Twitter, thus we can assume that they occurred in the context of a digital environment, though is it not possible assess the extent to which they represent instances of DNCA.

H2 is tested in two ways. First, I examine the average of the average protest count

across the range of years, and compare the averages between high engaged norms countries and low engaged norms countries as identified above. Secondly, I use negative binomial regression to identify a difference in the average protest count between the two groups of countries, controlling for Freedom House scores for each year. Negative binomial regression is chosen because the count data provided by the ICEWS are overdispersed, with the overdispersion factor estimated at 84.15 ($p<0.001$).

This approach has obvious limitations, such as the binary specification of the independent variable. However, H2 is a fairly broad baseline observable implication that, if true, would provide some additional empirical support for the theory proposed here. Furthermore, this approach will lay the foundations for future studies to seek further verification and refining of the contours of the theory.

6.4 Results

The discussion of the results for H2 proceed in three steps. First, descriptive statistics of the merged data set are presented. Then, the main ordinal logistic regressions are presented and discussed. This is followed by a test of the assumptions underlying the main ordinal logistic regression. Lastly, the main results of an alternative analytical approach are presented, and followed by a discussion of the overall results.

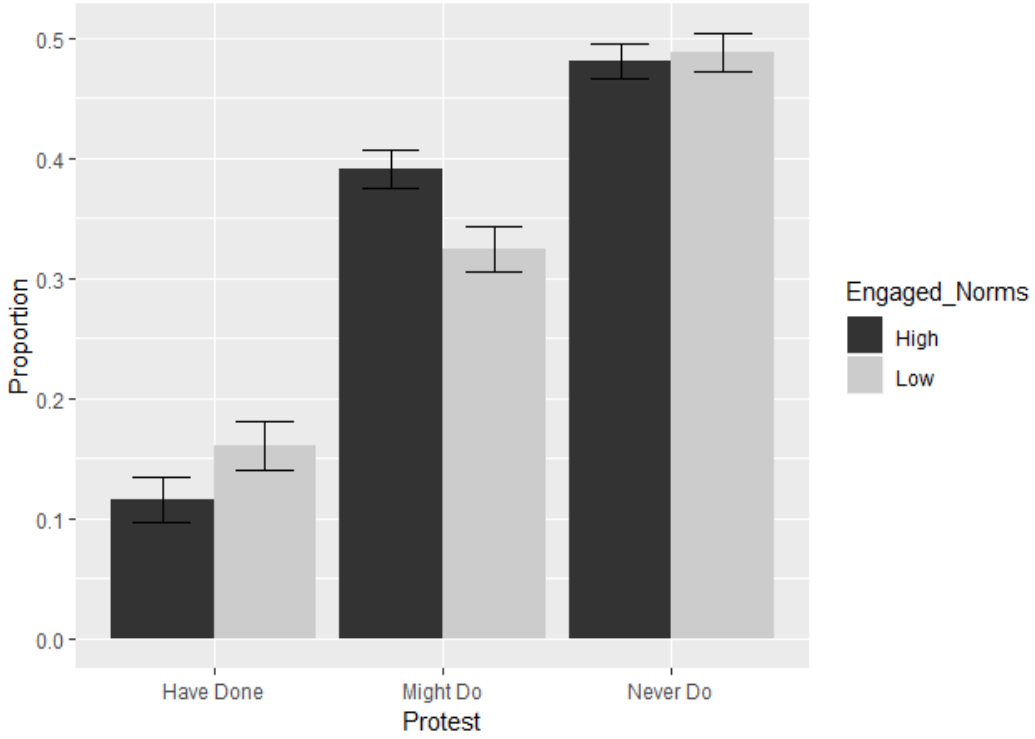
Descriptive Statistics

The merged data set contains a total of 17,196 individual-level observations. Unfortunately, the WVS data set only contained data for 13 of the countries included in the Hooghe et al. (2016) data set, seven of which are identified in Table 6.1 as having high levels of engaged norms (N=9,377), whereas the remaining 6 are identified as having low levels of engaged norms (N=7,819). Accordingly, the analysis conducted below is

conducted on WVS responses from the following set of countries: Sweden, Chile, Colombia, Cyprus, Estonia, Hong Kong, South Korea, Mexico, New Zealand, Poland, Russia, Taiwan, and Thailand.

Figures 6.3-6.5 show the proportion of respondents across each of the categories of each of the dependent variables for each level of engaged norms ("High" and "Low"). 95% confidence intervals are indicated by vertical bars. First, consider Figure 6.3, which shows the proportions for protest. While a higher proportion of respondents in low engaged norms countries report having protested, a far higher proportion of those in high engaged norms countries reported being willing to protest (∼39% compared to ∼33%).

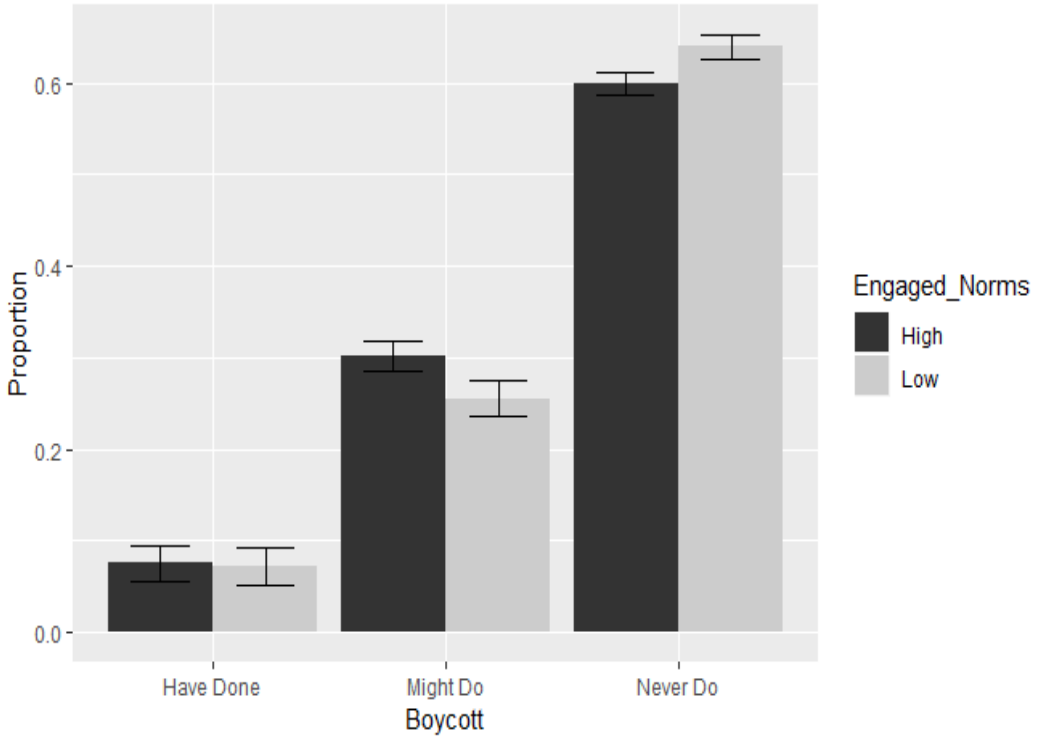
Figure 6.3: Histogram of Protest Participation by Engaged Norms Group (WVS)



Next, consider participation in boycotts. As Figure 6.4 shows, the proportion of respondents reporting that they have participated in a boycott is roughly equal in the two groups of countries. As with protests, however, a clearly higher proportion of respondents

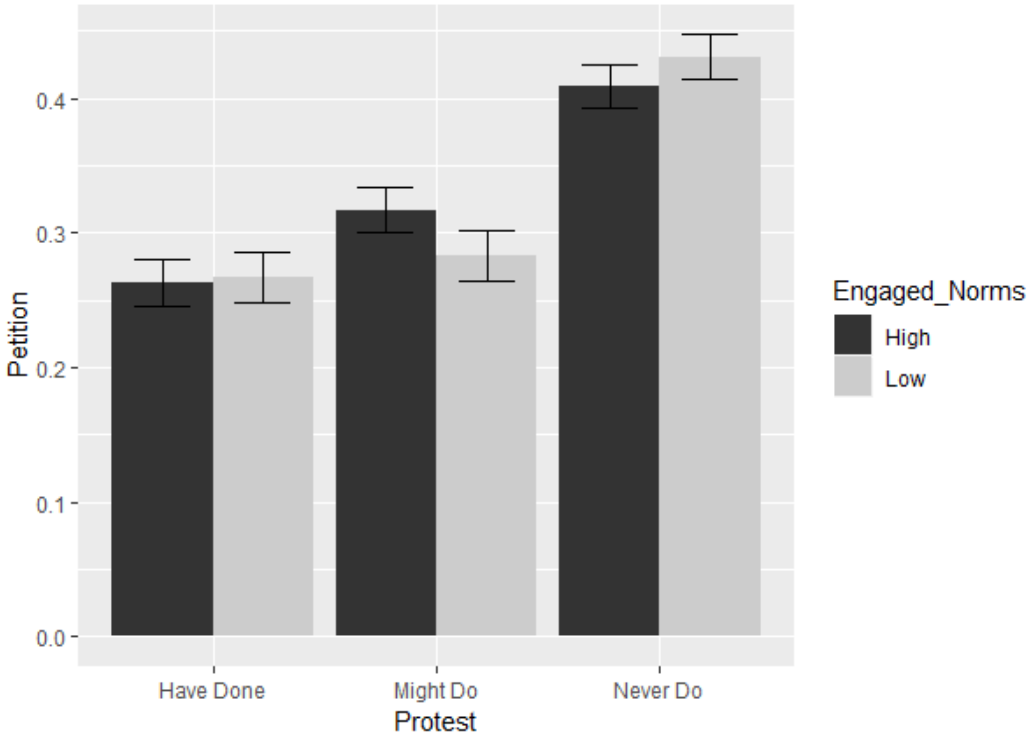
in high engaged norms countries report being willing to participate in a boycott, and a lower proportion report that they would never participate in a boycott.

Figure 6.4: Histogram of Boycott Participation by Engaged Norms Group (WVS)



Finally, consider the figures for petition signing, shown in Figure 6.5. As with the figures for protesting, a slightly higher proportion of respondents in low engaged norms countries report that they have signed a petition, whereas a higher proportion of respondents in high engaged norms countries report being willing to sign a petition. However, the confidence intervals for "Have Done" and "Never Do" categories , suggesting that these differences might not be statistically significant for these two categories.

Figure 6.5: Histogram of Petition Signing by Engaged Norms Group (WVS)



One commonality across all figures is that the proportion of respondents who claim to be willing to participate in a given action type is consistently higher in high engaged norms countries across all three action types. This supports the postulate advanced in chapter 2 that argues that higher levels of engaged norms should be associate with a generally higher willingness to participate in collective action. This claim is critical, since this is what makes internet virality more likely.

6.4.1 Main Results for H1

The results for the estimates of Equation 6.1 are shown in Table 6.2. The results largely support H2 in that they show that the effect of technology use on participation in collective action is stronger for individuals in countries with high levels of engaged norms, as indicated by the positive and statistically significant interaction effect (ICT

Use*Engaged) in each of the models, except for the one that includes participation in protest as the dependent variable. However, it should be noted that the p-value for this interaction term is 0.13, so it is not that far outside of the rejection region.

Table 6.2: Results of Ordinal Logistic Regression of Participation in Collective Action on ICT Use*Engaged Norms Interaction

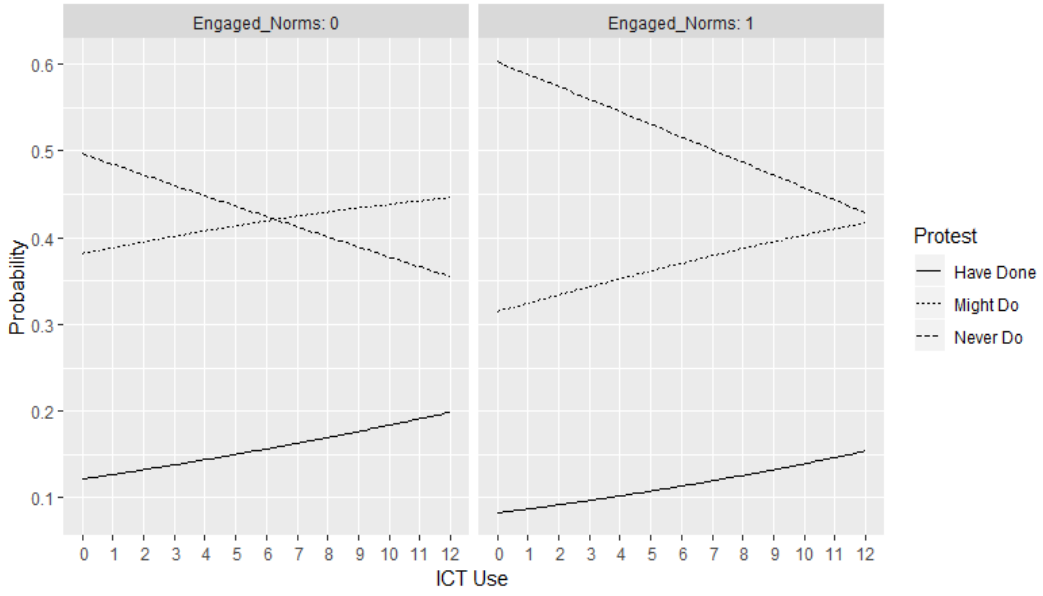
	Dependent variable:		
	Protest	Boycott	Petition
	(1)	(2)	(3)
ICT Use	0.049***	0.040***	0.051***
	(0.005)	(0.006)	(0.005)
Engaged	−0.429***	−0.225***	−0.447***
	(0.049)	(0.055)	(0.048)
Age	0.001	0.004***	0.010***
	(0.001)	(0.001)	(0.001)
Sex	−0.122***	−0.148***	−0.012
	(0.026)	(0.027)	(0.025)
Education	0.129***	0.147***	0.170***
	(0.007)	(0.008)	(0.007)
SES	−0.016	−0.051***	−0.069***
	(0.012)	(0.013)	(0.012)
Post-Mat. Values	0.221***	0.022	−0.002
	(0.023)	(0.024)	(0.022)
ICT Use*Engaged	0.010	0.034***	0.027***
	(0.007)	(0.007)	(0.006)
Observations	17,185	17,022	17,242
Note:			*p<0.1; **p<0.05; ***p<0.01

Because the coefficients are in terms of log odds, it is difficult to get a sense of whether

or not the interaction between engaged norms and ICT Use is substantively significant with the coefficients alone. In order to aid in interpretation of the regression results, predicted probabilities are extracted from the models and plotted across the range of the ICT Use index for each action type. These are shown in Figures 6.6-6.8.

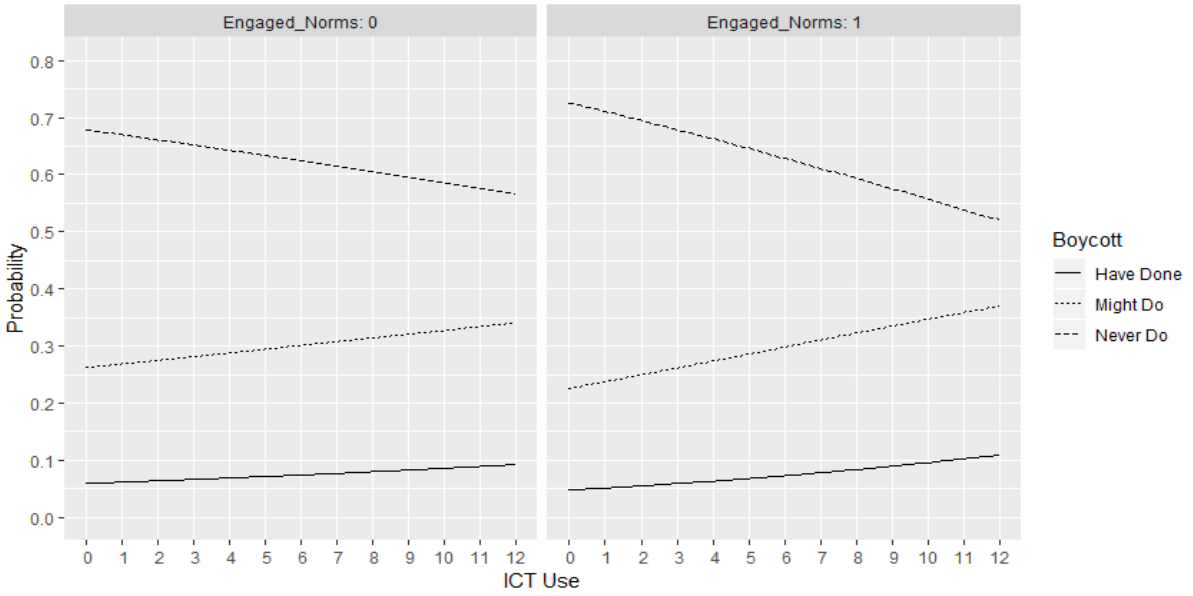
Consider the results for protest first. The left box in Figure 6.6 shows the predicted effect of ICT use on protest participation for individuals in low engaged norms countries ("Engaged_Norms: 0"), while the box on the right see the same for individuals in countries with high levels of engaged norms("Engaged_Norms: 1"). Comparing the two sets of graphs, we see that for individuals in countries with high aggregate levels of engaged norms each additional increase along the ICT use index results in a larger increase in probability of both having protested and being willing to protest. In low engaged norms countries, an increase from a score of 0 on the ICT use index to a score of 12 results in a predicted increase in the likelihood of being willing to protest of 0.7% (from 0.38 to 0.45), whereas the same increase in ICT use in high engaged norms countries results in about a 10% increase (0.32 to 0.42).

Figure 6.6: Predicted Probability of Protest Participation by Engaged Norms and ICT Use



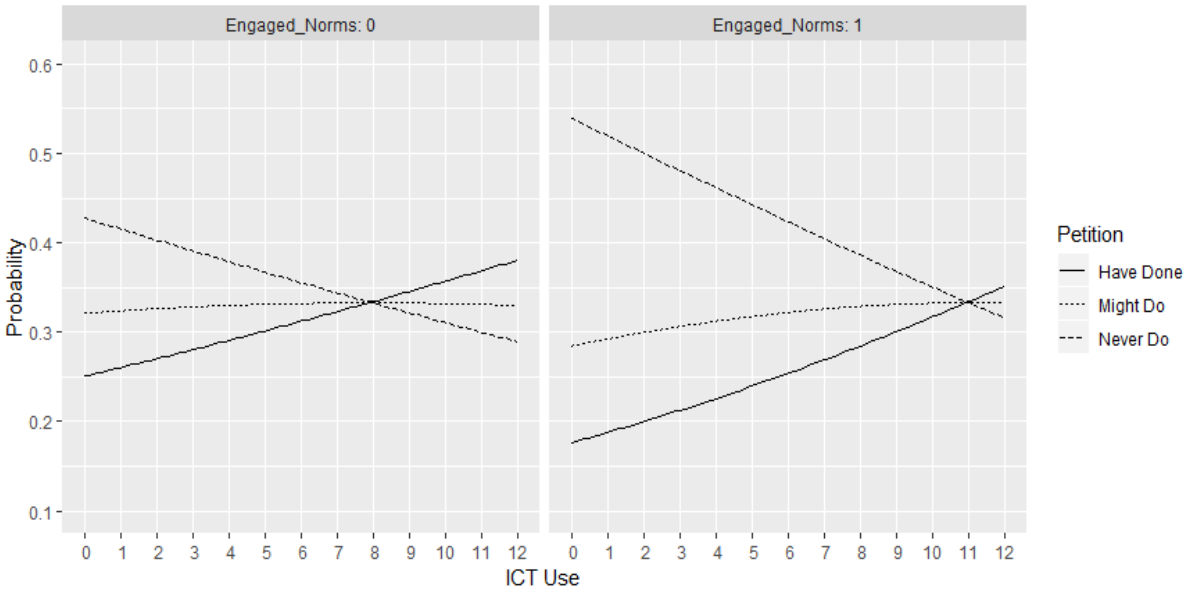
Next, consider the results for boycotts, shown in Figure 6.7. The results here are not particularly impressive, but one can see that the slopes of the lines for high engaged norms countries are somewhat steeper than those for low engaged norms countries, and the probability of being unwilling to participate in boycotts drops somewhat more when moving from low to high ICT Use in high engaged norms countries.

Figure 6.7: Predicted Probability of Boycott Participation by Engaged Norms and ICT Use



Finally, consider the results for petitions, shown in Figure 6.8. Petitions present the starkest contrast in the predicted probability of being unwilling to petition signing between low and high engaged norms countries, with the probability of being unwilling to sign a petition going from about 0.55 at the lowest level of ICT use to about 0.3 at the highest level of ICT use, a fairly precipitous 20 percentage point drop when compared to the roughly 10 percentage point drop in low engaged norms countries.

Figure 6.8: Predicted Probability of Petition Signing by Engaged Norms and ICT Use



Testing Model Assumptions

While the above results lend some modest support for H2, it is important to note that ordinal logistic regression requires the assumption of proportional odds, meaning that the model assumes that the predictors have an identical effect for each cumulative split of the dependent variable. So, in the present case that means that it assumes that the coefficient that describes the relationship between the "Would Never Do" group and the combined "Might Do" and "Have Done" groups is the same coefficient that describes the relationship between the "Might Do" and "Have Done". This is a fairly strong assumption, since there may be important differences between these groups.

I evaluate the plausibility of the proportional odds assumption by calculating the log odds of being greater than or equal to each value of the target variable. To do this, I estimate separate binary logistic regressions for each cumulative split of the dependent variable for each independent variable without assuming proportional odds. This is done for each action type.

Table 6.3 displays the coefficients for each split when the dependent variable is participation in protest. The "Y≥1" shows the log odds of moving from the lowest group to the combined higher level group ("Have Done" or "Might Do"), the "Y≥2" column shows the coefficient that describes the relationship between the "Have Done" group (coded 2) and the other two groups, and the "Difference" column shows the difference between the two. If the proportional odds assumption is correct, we should expect the difference between the two coefficients to be close to 0. Overall, the results suggest that the proportional odds assumption is not very plausible for this variable. To see this, consider the coefficients produced for the "High Engaged Norms" variable. Recall that this is a binary variable that is set equal to one for high engaged norms and 0 for low engaged norms. The difference between the coefficients produced in the two splits of the dependent variable when the Engaged Norms variable is set to 0 is -1.61 (-1.61-(-0.01) = -1.61), and the difference between the coefficients produced in the two splits of the dependent variable when the Engaged Norms variable is set to 1 is -2.07 (-2.02-0.05) = -2.07). Similar difference can be observed for ICT Use. These differences imply that the proportional odds assumption does not hold, since the predicted impact of the main independent variables varies across the different specifications of the dependent variable.

Table 6.3: Predicted Log Odds of Binary Logistic Regressions (Protest)

Variable	Value	N	Y≥1	Y≥2	Difference
ICT Use	[0, 2)	4209	-0.52	-2.29	-1.77
ICT Use	[2, 5)	3653	-0.16	-2.00	-1.84
ICT Use	[5,11)	4072	0.34	-1.62	-1.97
ICT Use	[11,12]	3575	0.42	-1.52	-1.94
High Engaged Norms	0	7613	-0.01	-1.62	-1.61
High Engaged Norms	1	9268	0.05	-2.02	-2.07
Overall		16881	0.02	-1.83	-1.85

Similarly, Table 6.4 shows the predicted log odds across each value of the independent variable and each specification of the boycott. Looking at the "Difference" column, we

see that there are again fairly large differences between the predicted values associated with each cut of the dependent variable.

Table 6.4: Predicted Log Odds of Binary Logistic Regressions (Boycott)

Variable	Value	N	Y≥1	Y≥2	Difference
ICT Use	[0, 2)	4,159	-1.33	-3.32	-1.99
ICT Use	[2, 5)	3,620	-0.79	-2.77	1.98
ICT Use	[5,11)	4,043	-0.21	-2.16	-1.95
ICT Use	[11,12]	3,545	-0.21	-2.17	-1.96
High Engaged Norms	No	7,561	-0.67	-2.52	-1.85
High Engaged Norms	Yes	9,165	-0.46	-2.49	-2.03
Overall		16,726	-0.56	-2.50	-1.94

Finally,Table 6.5 shows the predicted log odds across each value of the independent variable for each specification of the petition variable. As with the tables above, we again find differences between the predicted values, though the differences for petitioning are somewhat smaller than they are for protesting and boycotting.

Table 6.5: Predicted Log Odds of Binary Logistic Regressions (Petition)

Variable	Value	N	Y≥1	Y≥2	Difference
ICT Use	[0, 2)	4,188	-0.31	-1.70	-1.39
ICT Use	[2, 5)	3,666	0.08	-1.20	1.28
ICT Use	[5,11)	4,091	0.70	-0.70	-1.40
ICT Use	[11,12]	3,591	0.71	-0.66	-1.37
High Engaged Norms	No	7,657	0.24	-0.98	-1.22
High Engaged Norms	Yes	9,266	0.35	-1.02	1.37
Overall		16,923	0.30	-1.00	-1.30

In sum, it appears that the proportional odds assumption does not quite hold for any of the action types. Accordingly, in the next subsection I develop an alternative approach to analyzing the data.

Separate Logistic Regressions

Since the proportional odds assumption appears to be doubtful, I supplement the main ordinal logistic regression analysis with individual binary logistic regressions that estimate the effect of the primary independent variables on each pair of response outcomes. In other words, I run separate logistic regressions for when the outcome variable is defined as being equal to either "Would Never Do" (0) or "Might Do" (1), and again for when the outcome variable is defined as being either "Might Do" (Now 0) or "Have Done" (1). This is done for each action type, resulting in six separate binary logistic regressions. I discuss the results for each action type in turn.

The results for protest are shown in Table 6.6. Again, the variable of interest here is the ICT Use: Engaged Norms interaction. Looking at the coefficient on this interaction in Table 6.6 we indeed see that it is positive, as expected, and statistically significant at the 0.01 level. This indicates that, as hypothesized, technology use does have a more strongly positive effect on individual willingness to participate in protests for individuals in high engaged norms countries.

Contrary to expectations, however, the same interaction is negative for the second specification of the dependent variable, as show in the second column of Table 6.6. It is difficult to say why this might be the case. One possible explanation is that, while the cross-cutting exposure that results from internet use may result in increased baseline willingness to participate in a protest, the risk involved in actually participating in a protest may depress participation. It is unclear why this effect would be more pronounced in high engaged norms countries. One possible explanation is that, since there are likely to be more protests in high engaged norms countries, there is a wider range in the extent of violence involved in them.

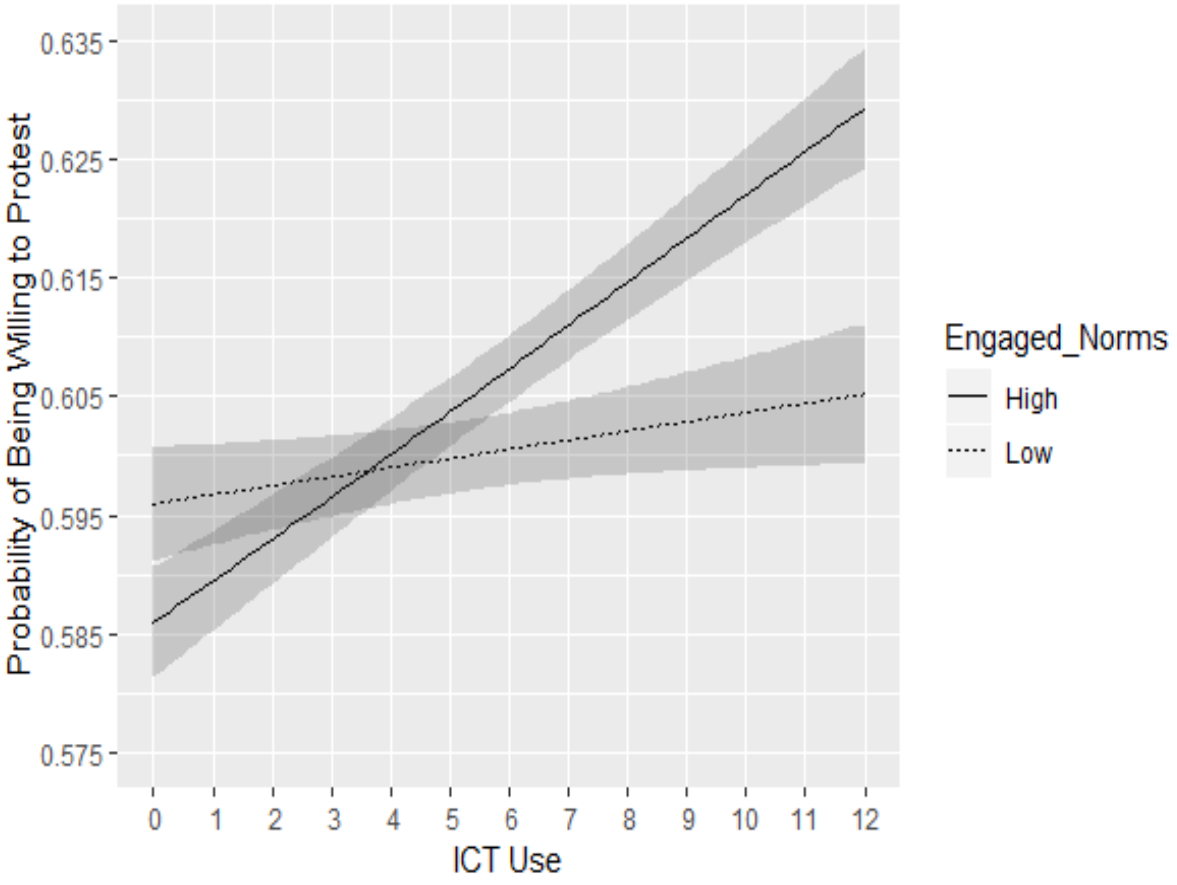
Table 6.6: Results of Regression of Participation in Protest on ICT Use*Engaged Norms Interaction (Separate Logit Models)

	Dependent variable: Protest Participation	
	"Never" (0)/ "Might" (1)	"Might"(0) /"Have" (1)
	(1)	(2)
ICT Use	0.013**	0.067***
	(0.006)	(0.009)
Engaged Norms	−0.178***	−0.307***
	(0.058)	(0.096)
Age	−0.008***	0.020***
	(0.001)	(0.002)
Sex	−0.098***	−0.050
	(0.032)	(0.047)
Education	0.098***	0.084***
	(0.009)	(0.013)
SES	−0.012	0.028
	(0.015)	(0.022)
Post-Mat. Values	0.184***	0.192***
	(0.029)	(0.043)
ICT Use*Engaged Norms	0.049***	−0.053***
	(0.008)	(0.012)
Constant	−0.602***	−2.619***
	(0.118)	(0.181)
Observations	13,376	7,783
Log Likelihood	−8,769.387	−4,394.764
Akaike Inf. Crit.	17,556.770	8,807.528
Note:		*p<0.1; **p<0.05; ***p<0.01

In order to make the interaction effect between ICT Use and engaged norms on

willingness to protest, the predicted probability of being willing to protest is plotted across the ICT use index for both levels of engaged norms, with covariates being held at their means or medians, where appropriate. 95% confidence intervals are indicated by shading. As Figure 6.8 makes clear, the predicted probabilities for individuals in low engaged norms countries is relatively flat relative to the predicted probabilities for high engaged norms countries. Whereas a 0 to 12 increase in ICT use results in only a 1% increase in the likelihood of being willing to protest in low engaged norms countries, in high engaged norms countries the same increase in ICT use results in a 4% increase, or four times the percentage point increase in low engaged norms countries. This is a fairly substantial difference.

Figure 6.9: Predicted Probability of Being Willing to Protest by Engaged Norms and ICT Use



Next, consider the results for boycotting. As reported in Table 6.7, we again see that ICT use has stronger effect on willingness to participate in countries with high aggregate levels of engaged norms than it does in countries with low levels of engaged norms. While the coefficient is somewhat lower than that for protests, it is statistically significant at the 0.01 level. However, the same interaction effect does not occur when comparing "Have Done" and "Might Do". Here, this is likely to be a result of the sparseness of the data.

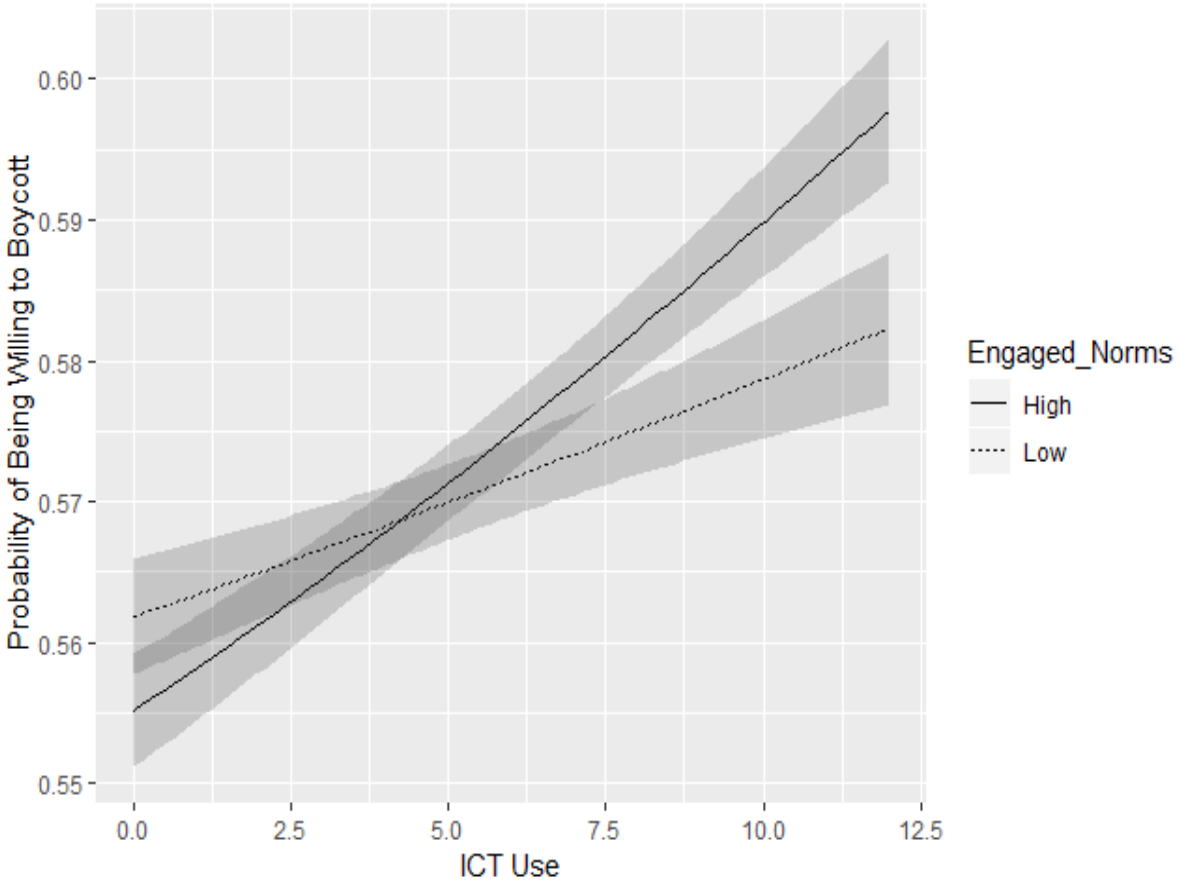
Table 6.7: Results of Regression of Participation in Boycotts on ICT Use*Engaged Norms Interaction (Separate Logit Models)

	Dependent variable: Boycott Participation	
	"Never" (0)/"Might" (1)	"Might" (0)/"Have" (1)
Model	(1)	(2)
ICT Use	0.034^{***}	0.045^{***}
	(0.007)	(0.012)
Engaged Norms	-0.151^{**}	-0.065
	(0.064)	(0.135)
Age	-0.003^{**}	0.014^{***}
	(0.001)	(0.002)
Sex	-0.162^{***}	0.052
	(0.032)	(0.061)
Education	0.125^{***}	0.103^{***}
	(0.009)	(0.018)
SES	-0.031^{**}	-0.003
	(0.015)	(0.027)
Post-Mat.Values	0.030	0.085^{*}
	(0.030)	(0.051)
ICT Use*Engaged Norms	0.036^{***}	-0.019
	(0.009)	(0.016)
Constant	-1.409^{***}	-2.952^{***}
	(0.123)	(0.239)
Observations	14,227	5,403
Log Likelihood	−8,332.040	−2,732.798
Akaike Inf. Crit.	16,682.080	5,483.596
Note:		*p<0.1; **p<0.05; ***p<0.01

Figure 6.11 shows how the predicted probability of being willing to boycott–obtained

from Model 1 in Table 6.7–varies by engaged norms and ICT Use. Again, 95% confidence intervals are indicated by shading. While the difference is not as pronounced as that for protests, it is clear that ICT results in a higher likelihood of being willing to protest.

Figure 6.10: Predicted Probability of Being Willing to Boycott by Engaged Norms and ICT Use



Lastly, consider the results for signing a petition, displayed in Table 6.8. As with the other action types, we again see that the ICT use/Engaged Norms interaction is positive and statistically significant at the 0.01 level, supporting H2. And, as with the results for boycotts, this interaction term is only statistically significant for the first specification of the dependent variable (Model 1).

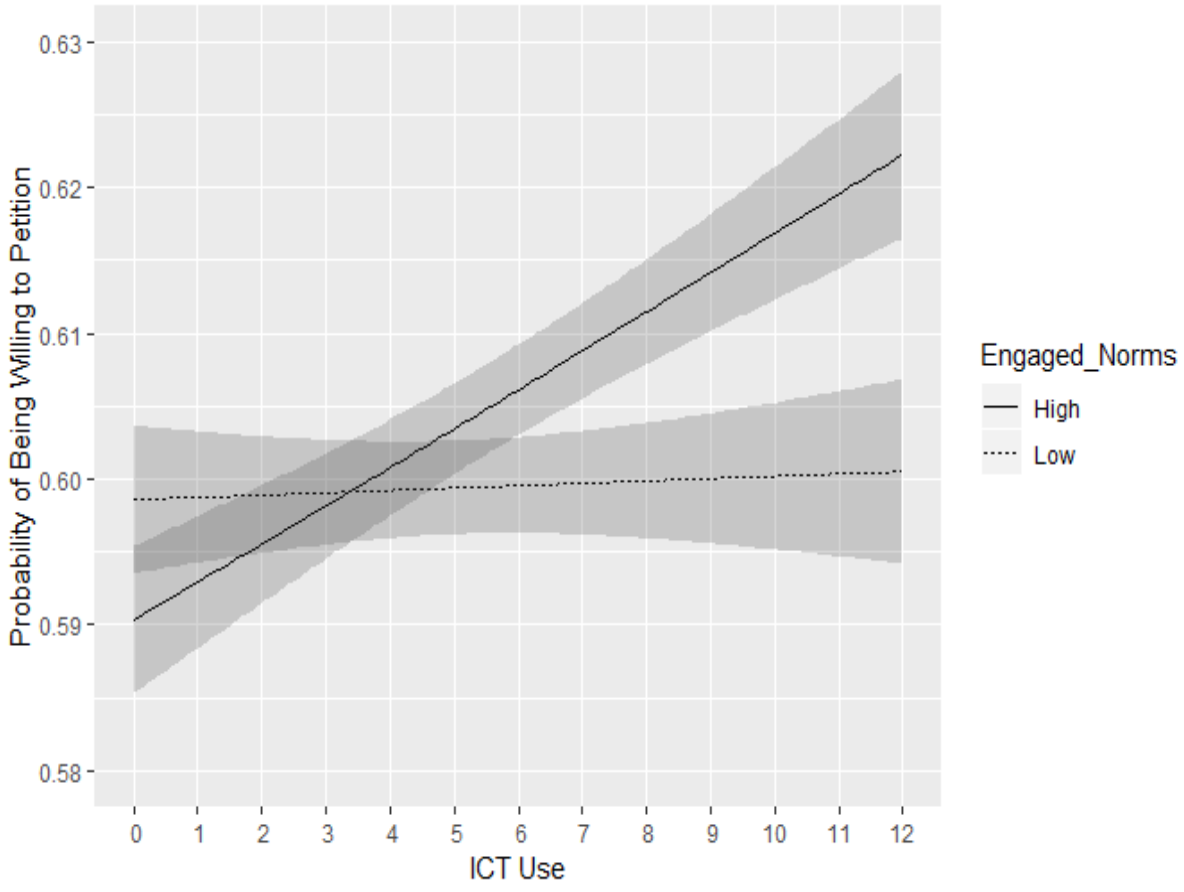
Table 6.8: Results of Regression of Participation in Petitions Signing on ICT Use*Engaged Norms Interaction (Separate Logit Models)

	Dependent variable:	
	"Never" (0)/"Might" (1)	"Might" (0)/"Have Done" (1)
	(1)	(2)
ICT Use	0.003	0.062***
	(0.007)	(0.008)
Engaged Norms	−0.145**	−0.167**
	(0.061)	(0.079)
Age	−0.010***	0.022***
	(0.001)	(0.001)
Sex	−0.133***	0.185***
	(0.034)	(0.041)
Education	0.114***	0.094***
	(0.010)	(0.011)
SES	−0.026	−0.048***
	(0.016)	(0.018)
Post-Mat.Values	0.164***	−0.055*
	(0.034)	(0.033)
ICT Use*Engaged Norms	0.043***	−0.007
	(0.009)	(0.010)
Constant	−0.453***	−2.118***
	(0.127)	(0.152)
Observations	11,456	8,824
Log Likelihood	−7,477.004	−5,857.371
Akaike Inf. Crit.	14,972.010	11,732.740
Note:		*p<0.1; **p<0.05; ***p<0.01

In order to demonstrate this result graphically, predicted probabilities are extracted

from Model 1 and plotted against ICT Use for each level of Engaged Norms in Figure 6.11. Figure 6.10 shows that the predicted probability of being willing to protest increases along with ICT use at a noticeably greater rate in high engaged norms countries, with the difference in the predicted proportion of "Might Do" between high and low engaged norms countries at the maximum ICT Use being about 2%, and the difference in the overall increase in the predicted probability across the entire range of the ICT use variable being about 3%, similar to the difference observed for protest.

Figure 6.11: Predicted Probability of Being Willing to Sign a Petition by Engaged Norms and ICT Use



Robustness Check

Making inferences from cross-sectional data is inherently fraught with potential confounding variables. In order to asses the robustness of the findings above, I estimate the effect of technology use on participation in collective action for Wave 5 and Wave 6 of the WVS Survey. Including another wave will provide some indication of how sensitive the results are to change over time. Unfortunately, the WVS does not include a question regarding ICT use prior to wave 5. Both wave 5 and wave 6 include a question that asks respondents th frequency with which they use a personal computer. While this is not as rich as the questions provided by Wave 6, we should expect it to tap into the same variables. I recode the main dependent variable as a binary variable that equals 1 if the respondent reported that they would be willing to participate in either of the three collective action types, and 0 if they reported that they would be unwilling to do so. I estimate the effect of the engaged norms/ICT Use interaction in two different ways. First, as suggested by Metzger and Jones(2019), Cox Proportional-Hazards model can yield more stable estimates for binary time series cross-sectional data (BTSCS). Since the data for this section is BTSCS, I estimate the ICT Use/Engaged Norms interaction using a Cox Proportional-Hazards model. As a second robustness check, I then run ordinary logistic regressions on the pooled data.

Table 6.9 shows the results for the estimates of the Cox model of participation in PBP on engaged norms for waves 5 and 6 of the WVS data. Looking at the coefficient for the PC Use/Engaged Norms, we see that it is again positive and statistically significant at the 0.01 level.

Table 6.9: Results for Regression of Willingness to Participate in PBP on PC Use*Engaged Norms Interaction (Cox Proportional Hazards Model)

	Dependent variable:
	Willing to Participate in PBP
PC Use	0.104^{***}
	(0.021)
Engaged Norms(High)	-0.485^{***}
	(0.068)
Age	-0.002^{***}
	(0.001)
Sex	-0.176^{***}
	(0.018)
Education	0.117^{***}
	(0.006)
SES	
	(0.000)
PR	-0.023^{*}
	(0.013)
CL	-0.145^{***}
	(0.016)
PC Use*Engaged Norms(High)	0.209^{***}
	(0.027)
Observations	30,882
R^2	0.068
Max. Possible R^2	0.995
Log Likelihood	$-79{,}525.620$
Wald Test	$1{,}967.580^{***}$ (df = 8)
LR Test	$2{,}159.629^{***}$ (df = 8)
Score (Logrank) Test	$2{,}064.032^{***}$ (df = 8)
Note:	*p<0.1; **p<0.05; ***p<0.01

As a final robustness check, a logistic regression is conducted on the pooled data the results are shown in Table 6.10. Again, we see that the engaged norms/PC Use is positive and statistically significant at the 0.01 level, adding further support to the main results.

Table 6.10: Results for Logistic Regression of Willingness to Participate in PBP on PC Use*Engaged Norms Interaction (Pooled Logit)

	Dependent variable:
	comb_part
PC Use	0.335^{***}
	(0.024)
Engaged Norms(High)	-0.346^{***}
	(0.076)
Age	0.004^{***}
	(0.001)
Sex	-0.225^{***}
	(0.024)
SES	0.140^{***}
	(0.006)
PR	-0.025
	(0.017)
CL	-0.163^{***}
	(0.020)
PC Use*Engaged Norms(High)	0.197^{***}
	(0.031)
Constant	-1.737^{***}
	(0.097)
Observations	30,882
Log Likelihood	−16,377.430
Akaike Inf. Crit.	32,772.860
Note:	*p<0.1; **p<0.05; ***p<0.01

Alternative Approach: Separate Models for Each Component of the Primary Independent Variable

One limitation of the approaches above is that, by collapsing the different citizenship norms variables into a single index we open the possibility of missing important relationships between each of the constituent citizenship norms indicators and participation in collective action. It is also possible that the particular way the countries are grouped could be affecting the results of the analysis. In this subsection, I address this issue by regressing the primary dependent variables–participation in protest, boycotts, and petitions–on each of the citizenship norms variables one at time, without any further grouping of the countries. I employ the same piece-wise approach used in the previous subsection: that is, a series of binary logistic regressions is conducted on each split of the dependent variable (i.e., "Never Done" vs. "Might Do", and "Might Do" vs. "Have Done").

Table 6.11 below shows the results for the regression of protest ("Never Done" vs. "Might Do") on the two citizenship norms types thought to be linked to participation in contentious collective action. Looking at the coefficient on the ICT Use*Engaged interaction term, we see that it is very small and statistically indistinguishable from zero. By contrast, the coefficient on the Use*All-Around interaction term is positive and statistically significant at the 0.01 level, controlling for post materialist values, age, sex, education, and self-reported SES (Socioeconomic Status).

Table 6.11: Results of Logistic Regression of Willingness to Protest on Engaged Norms

	Dependent variable:	
	Protest Participation (Never Have (0) vs. Might Do (1)	
	(Engaged Norms)	(All-Around Norms)
ICT Use	0.041^{***} (0.007)	-0.001 (0.010)
Engaged	-0.004^{**} (0.002)	
All-Around Around		-0.005^{***} (0.002)
Age	-0.006^{***} (0.001)	-0.007^{***} (0.001)
Sex	-0.094^{***} (0.032)	-0.097^{***} (0.032)
Education	0.103^{***} (0.009)	0.095^{***} (0.009)
SES	-0.008 (0.015)	-0.012 (0.015)
Post-Mat.Values	0.154^{***} (0.013)	0.153^{***} (0.013)
ICT Use*Engaged	0.00005 (0.0003)	
ICT Use*All-Around Around		0.001^{***} (0.0002)
Constant	-0.918^{***} (0.117)	-0.736^{***} (0.141)
Observations	13,376	13,376
Log Likelihood	$-8{,}736.354$	$-8{,}728.300$
Akaike Inf. Crit.	17,490.710	17,474.600
Note:		*p<0.1; **p<0.05; ***p<0.01

In order demonstrate the difference between the effect of ICT Use in high All-Around norms and low All-Around norms countries, expected probabilities are calculated across the range of the ICT Use index for the 3rd (44%) and 1st (21%) quartiles of the All-Around variable. I choose this approach here since there the data provide little natural variation in the main independent variable (All-Around Norms) owing to the small number of cases. Simulations help to address this in so far as they take advantage of the full distribution associated with the coefficient estimate and standard error produced by linear regression, without being constrained to predictions based solely on these point estimates. Figure 6.12 below shows the results of the simulations.

Figure 6.12: Simulated Expected Probability of Being Willing to Protest by All-Around Norms and ICT Use

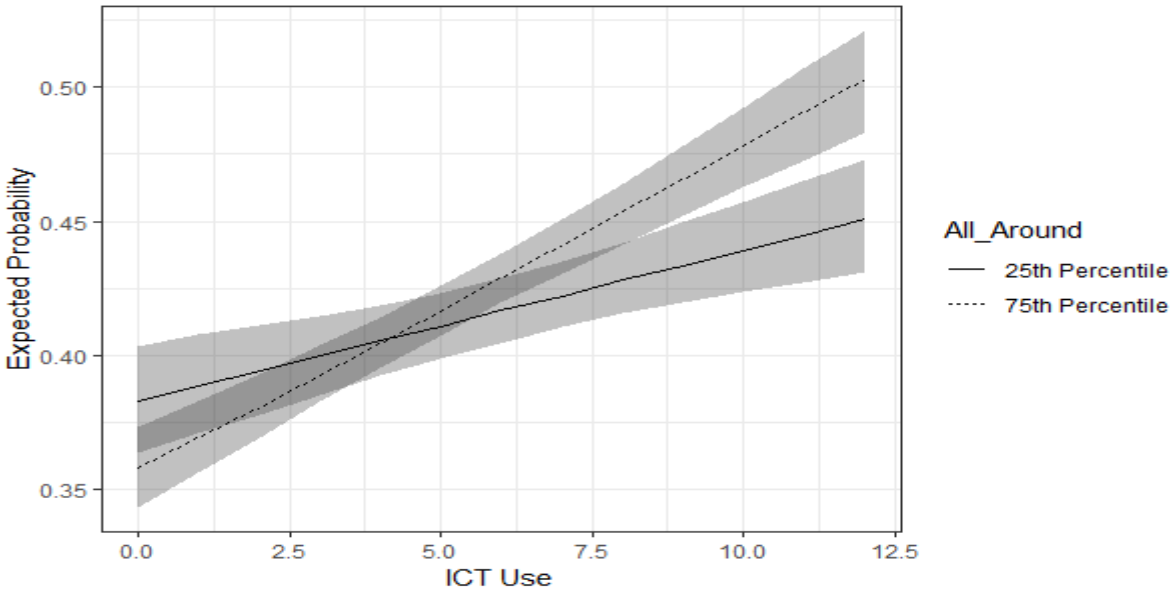


Figure 6.12 suggests that we should expect the probability of being to willing to protest to be about 5% higher for frequent ICT users in countries with an All-Around Norms score in the third quartile. However, the difference disappears for lower values of ICT Use.

Next, consider the results for the regression of the "Might Do"/"Have Done" split of the dependent variable on engaged norms variables, shown in Table 6.12. Surprisingly, the ICT Use*Engaged interaction coefficient has a negative sign, and it is statistically significant. This may be a product of the fact that a higher proportion of respondents in the low engaged norms countries report having protested. I discuss other possibilities at the end of this subsection.

Table 6.12: Results of Logistic Regression of Protest Participation on Engaged Norms Variables

	Dependent variable:	
	Protest Participation (Might Do (0) vs. Have Done (1))	
	(Engaged Norms)	(All-Around Norms)
ICT Use	0.063*** (0.011)	0.026* (0.014)
Engaged	0.011*** (0.004)	
All-Around		−0.015*** (0.003)
Age	0.020*** (0.002)	0.019*** (0.002)
Sex	−0.031 (0.046)	−0.043 (0.047)
Education	0.078*** (0.013)	0.085*** (0.013)
SES	0.021 (0.022)	0.016 (0.022)
Post-Mat.Values	0.122*** (0.043)	0.106** (0.042)
StatusNF	0.551*** (0.089)	0.509*** (0.083)
StatusPF	0.255*** (0.067)	0.267*** (0.065)
ICT Use*Engaged	−0.001*** (0.0004)	
ICT Use*All-Around		0.0003 (0.0004)
Constant	−3.056*** (0.192)	−2.275*** (0.218)
Observations	7,783	7,783
Log Likelihood	−4,458.669	−4,432.614
Akaike Inf. Crit.	8,939.339	8,887.229
Note:		*p<0.1; **p<0.05; ***p<0.01

I now turn to the impact of citizenship norms that are expected to disfavor participation in contentious collective action. To do this, the protest participation variable is regressed on each of the three remaining citizenship norms type: "Dutiful," "Respectful," and "Subject." Table 6.13 shows the results. Looking at the three interaction terms in Table 6.13, we see that all three of the citizenship norms variables have negative and statistically significant impacts on the extent to which ICT Use on the odds of being willing to protest, as expected by the theory proposed in chapter 2.

Table 6.13: Results Logistic Regression of Willingness to Protest on Dutiful Norms Variables

	Dependent variable:		
	Protest Participation (Never Done (0) vs. Might Do (1))		
	(Dutiful)	(Respectful)	(Subject)
ICT Use	0.066*** (0.010)	0.055*** (0.007)	0.043*** (0.008)
Dutiful	0.035*** (0.004)		
Respectful		−0.004** (0.002)	
Subject			0.096*** (0.012)
Age	−0.008*** (0.001)	−0.008*** (0.001)	−0.010*** (0.001)
Sex	−0.109*** (0.032)	−0.099*** (0.032)	−0.116*** (0.032)
Education	0.094*** (0.009)	0.090*** (0.009)	0.089*** (0.009)
SES	0.007 (0.015)	0.002 (0.015)	0.006 (0.015)
Post-Mat.Values	0.166*** (0.013)	0.156*** (0.013)	0.149*** (0.013)
ICT Use*Dutiful	−0.002*** (0.001)		
ICT Use*Respectful		−0.001*** (0.0003)	
ICT Use*Subject			−0.003** (0.001)
Constant	−1.514*** (0.128)	−0.773*** (0.123)	−1.142*** (0.119)
Observations	13,376	13,376	13,376
Log Likelihood	−8,672.845	−8,704.359	−8,670.550
Akaike Inf. Crit.	17,363.690	17,426.720	17,359.100
Note:			*p<0.1; **p<0.05; ***p<0.01

Next, consider the results of the regression of the "Might Do"/"Have Done" split on the citizenship norms variables expected to be negatively correlated with protest participation, which are shown in Table 6.14. None of the coefficients on the interaction terms reach conventional levels of statistical significance.

Table 6.14: Results of Logistic Regression of Protest Participation on Dutiful Norms Variables

	Dependent variable:		
	Protest Participation (Might Do (0) vs. Have Done (1))		
	(Dutiful)	(Respectful)	(Subject)
ICT Use	0.022 (0.015)	0.027** (0.010)	0.050*** (0.012)
Dutiful	−0.024*** (0.006)		
Respectful		0.018*** (0.003)	
Subject			0.028* (0.016)
Age	0.020*** (0.002)	0.021*** (0.002)	0.020*** (0.002)
Sex	−0.027 (0.046)	−0.032 (0.047)	−0.031 (0.046)
Education	0.080*** (0.013)	0.093*** (0.013)	0.080*** (0.013)
SES	0.011 (0.022)	0.001 (0.022)	0.025 (0.022)
Post-Mat.Values	0.123*** (0.043)	0.112*** (0.043)	0.126*** (0.042)
NF	0.544*** (0.084)	0.143 (0.088)	0.517*** (0.086)
PF	0.053 (0.073)	−0.198*** (0.076)	0.279*** (0.072)
ICT Use*Dutiful	0.001 (0.001)		
ICT Use*Respectful		0.001 (0.0004)	
ICT Use*Subject			−0.002 (0.002)
Constant	−2.307*** (0.219)	−3.084*** (0.195)	−2.989*** (0.197)
Observations	7,783	7,783	7,783
Log Likelihood	−4,450.639	−4,398.491	−4,462.358
Akaike Inf. Crit.	8,923.279	8,818.981	8,946.716
Note:			**p<0.05; ***p<0.01

Now, consider the results for participation in boycotts. Table 6.15 shows the results of the logistic regression of the "Never Have"/"Might Have" split of the dependent variable on the two engaged norms variables ("Engaged" and "All-Around"), and Table 6.16 shows the results for the remaining split. Again, we see that, whereas pure engaged norms do not appear to moderate the effect of technology use on willingness to participate in boycotts, technology use is more strongly positively associated with willingness to boycott among individuals in countries with higher All-Around norms. Further, the statistical significance and magnitude of this effect are similar to that observed for protest.

Table 6.15: Results of Logistic Regression of Willingness to Participate in Boycott on Engaged Norms Variables

	Dependent variable:	
	Boycott Participation (Never Done (0) vs. Might Do (1))	
	(Engaged Norms)	(All-Around Norms)
ICT Use	0.038*** (0.008)	0.014 (0.010)
Engaged	−0.009*** (0.002)	
All-Around		−0.0004 (0.002)
Age	−0.005*** (0.001)	−0.005*** (0.001)
Sex	−0.164*** (0.033)	−0.165*** (0.033)
Education	0.130*** (0.010)	0.122*** (0.010)
SES	−0.019 (0.016)	−0.023 (0.016)
Post-Mat.Values	0.033 (0.030)	0.038 (0.030)
StatusNF	−1.106*** (0.066)	−0.956*** (0.061)
StatusPF	−0.487*** (0.050)	−0.408*** (0.048)
ICT Use*Engaged	0.0001 (0.0003)	
ICT Use*All-Around		0.001*** (0.0002)
Constant	−0.912*** (0.133)	−1.062*** (0.152)
Observations	14,227	14,227
Log Likelihood	−8,178.913	−8,186.926
Akaike Inf. Crit.	16,379.830	16,395.850
Note:		*p<0.1; **p<0.05; ***p<0.01

Table 6.16: Results for Logistic Regression of Boycott Participation on Engaged Norms Variables

	Dependent variable:	
	Boycott Participation (Might Do (0) vs. Have Done (1)	
	(Engaged Norms)	(All-Around Norms)
ICT Use	0.063^{***} (0.016)	0.021 (0.018)
Engaged	0.017^{***} (0.005)	
All-Around		-0.014^{***} (0.004)
Age	0.018^{***} (0.002)	0.018^{***} (0.002)
Sex	0.082 (0.061)	0.078 (0.062)
Education	0.111^{***} (0.018)	0.116^{***} (0.018)
SES	-0.034 (0.028)	-0.039 (0.028)
Post-Mat.Values	0.135^{***} (0.023)	0.134^{***} (0.023)
StatusNF	-0.512^{***} (0.176)	-0.679^{***} (0.170)
StatusPF	0.790^{***} (0.089)	0.702^{***} (0.085)
ICT Use*Engaged	-0.001^{*} (0.001)	
ICT Use*All-Around		0.001 (0.0005)
Constant	-4.045^{***} (0.265)	-3.165^{***} (0.293)
Observations	5,403	5,403
Log Likelihood	$-2{,}653.286$	$-2{,}649.672$
Akaike Inf. Crit.	5,328.572	5,321.343
Note:		*p<0.1; **p<0.05; ***p<0.01

Next, consider the effect of the dutiful norms variables on the relationship between ICT use and participation in boycotts. The results of the corresponding logistic regressions are shown in Tables 6.17 and 6.18. First, looking at Table 6.17, we see that a statistically significant negative effect is observed only for the ICT Use*Respectful interaction.

Table 6.17: Results for Logistic Regression of Willingness to Participate in Boycotts on Dutiful Norms Variables

	Dependent variable:		
	Boycott Participation (Never Done (0) vs. Might Do (1)		
	(Dutiful)	(Respectful)	(Subject)
ICT Use	0.042*** (0.011)	0.059*** (0.008)	0.042*** (0.009)
Dutiful	0.019*** (0.004)		
Respectful		−0.001 (0.002)	
Subject			0.108*** (0.013)
Age	−0.005*** (0.001)	−0.005*** (0.001)	−0.007*** (0.001)
Sex	−0.173*** (0.033)	−0.169*** (0.033)	−0.185*** (0.033)
Education	0.130*** (0.010)	0.122*** (0.010)	0.127*** (0.010)
SES	−0.014 (0.016)	−0.018 (0.016)	−0.011 (0.016)
Post-Mat.Values	0.027 (0.030)	0.041 (0.030)	0.029 (0.030)
StatusNF	−1.031*** (0.062)	−0.823*** (0.065)	−0.743*** (0.063)
StatusPF	−0.265*** (0.051)	−0.269*** (0.053)	−0.069 (0.054)
ICT Use*Dutiful	−0.0001 (0.001)		
ICT Use*Respectful		−0.001*** (0.0003)	
ICT Use*Subject			−0.002 (0.001)
Constant	−1.504*** (0.150)	−1.117*** (0.133)	−1.647*** (0.140)
Observations	14,227	14,227	14,227
Log Likelihood	−8,174.197	−8,178.875	−8,112.155
Akaike Inf. Crit.	16,370.390	16,379.750	16,246.310

Note: *p<0.1; **p<0.05; ***p<0.01

Table 6.18: Results for Logistic Regression of Boycott Participation on Dutiful Norms Variables

	Dependent variable:		
	Boycott Participation (Might Do (0) vs. Have Done (1)		
	(Dutiful)	(Respectful)	(Subject)
ICT Use	0.031 (0.019)	0.041*** (0.013)	0.056*** (0.015)
Dutiful	−0.009 (0.009)		
Respectful		0.003 (0.004)	
Subject			0.101*** (0.018)
Age	0.019*** (0.002)	0.019*** (0.002)	0.016*** (0.002)
Sex	0.088 (0.060)	0.088 (0.060)	0.073 (0.061)
Education	0.115*** (0.018)	0.116*** (0.018)	0.114*** (0.018)
SES	−0.036 (0.028)	−0.038 (0.028)	−0.009 (0.028)
Post-Mat.Values	0.145*** (0.023)	0.146*** (0.023)	0.122*** (0.023)
StatusNF	−0.673*** (0.171)	−0.760*** (0.177)	−0.411** (0.174)
StatusPF	0.622*** (0.099)	0.585*** (0.107)	1.080*** (0.101)
ICT Use*Dutiful	0.001 (0.001)		
ICT Use*Respectful		0.0001 (0.0005)	
ICT Use*Subject			−0.003 (0.002)
Constant	−3.551*** (0.304)	−3.762*** (0.260)	−4.293*** (0.267)
Observations	5,403	5,403	5,403
Log Likelihood	−2,662.106	−2,661.743	−2,632.053
Akaike Inf. Crit.	5,346.211	5,345.486	5,286.105
Note:			*p<0.1; **p<0.05; ***p<0.01

Last, consider the results for the test of the effect of the engaged norms variables on the relationship between ICT use and participation in petition signing, shown in Tables 6.19 and 6.20. Looking at Table 6.19, we see a positive and statistically significant coefficient on the ICT Use*All-Around interaction term for the "Never Done"/"Might Do" split of the dependent variable, just as we observed for protest above. However, the engaged norms variables do not appear to moderate the relationship between ICT use and actually having signed a petition, as suggested by the results of Table 6.20.

Table 6.19: Results for Logistic Regression of Willingness to Sign Petition on Engaged Norms Variables

	Dependent variable:	
	Petition Signing (Never Done (0) vs. Might Do (1))	
	(Engaged Norms)	(All-Around Norms)
ICT Use	0.042^{***} (0.008)	-0.009 (0.010)
Engaged	-0.008^{***} (0.002)	
All-Around		-0.011^{***} (0.002)
Age	-0.001 (0.001)	-0.002 (0.001)
Sex	-0.057^{*} (0.031)	-0.070^{**} (0.031)
Education	0.165^{***} (0.009)	0.156^{***} (0.009)
SES	-0.035^{**} (0.014)	-0.049^{***} (0.014)
Post-Mat.Values	0.096^{***} (0.028)	0.087^{***} (0.028)
StatusNF	-1.190^{***} (0.058)	-1.022^{***} (0.052)
StatusPF	-0.186^{***} (0.047)	-0.039 (0.045)
ICT Use*Engaged	-0.00004 (0.0003)	
ICT Use*All-Around		0.001^{***} (0.0002)
Constant	-0.466^{***} (0.124)	-0.169 (0.139)
Observations	14,136	14,136
Log Likelihood	$-9{,}114.074$	$-9{,}114.907$
Akaike Inf. Crit.	18,250.150	18,251.810
*Note**		*p<0.1; **p<0.05; ***p<0.01

Table 6.20: Results for Logistic Regression of Petition Signing on Engaged Norms Variables

	Dependent variable:	
	Petition Signing (Might Do (0) vs. Have Done (1))	
	(Engaged Norms)	(All-Around Norms)
ICT Use	0.043*** (0.010)	0.042*** (0.012)
Engaged	0.013*** (0.003)	
All-Around		−0.015*** (0.003)
Age	0.018*** (0.002)	0.018*** (0.002)
Sex	0.181*** (0.042)	0.174*** (0.043)
Education	0.083*** (0.011)	0.094*** (0.011)
SES	−0.025 (0.018)	−0.027 (0.018)
Post-Mat.Values	−0.076** (0.033)	−0.085** (0.034)
StatusNF	−0.678*** (0.085)	−0.839*** (0.081)
StatusPF	−0.408*** (0.057)	−0.461*** (0.055)
ICT Use*Engaged	−0.0003 (0.0003)	
ICT Use*All-Around		−0.0001 (0.0003)
Constant	−1.970*** (0.164)	−1.202*** (0.184)
Observations	8,824	8,824
Log Likelihood	−5,761.568	−5,716.089
Akaike Inf. Crit.	11,545.140	11,454.180
Note:		*p<0.1; **p<0.05; ***p<0.01

The results of the regression of petition signing on the dutiful norms variables are shown in Table 6.21 and 6.22. Looking at Table 6.21, we see that all three dutiful norms variables reduce the impact of ICT Use on willingness to sign a petition. By contrast, Table 6.22 shows that the dutiful norms variables do not change the impact of ICT Use on having actually signed a petition relative to merely being willing to sign it.

Table 6.21: Results for Logistic Regression of Petition Signing on Dutiful Norms Variables

	*Dependent variable**		
	Petition Signing (Never Done (0) vs. Might Do (1))		
	(Dutiful)	(Respectful)	(Subject)
ICT Use	0.063*** (0.010)	0.062*** (0.007)	0.055*** (0.009)
Dutiful	0.043*** (0.004)		
Respectful		0.005** (0.002)	
Subject			0.200*** (0.015)
Age	−0.001 (0.001)	−0.001 (0.001)	−0.003** (0.001)
Sex	−0.064** (0.031)	−0.065** (0.031)	−0.083*** (0.031)
Education	0.168*** (0.009)	0.160*** (0.009)	0.160*** (0.009)
SES	−0.024 (0.015)	−0.041*** (0.014)	−0.029* (0.015)
Post-Mat.Values	0.081*** (0.028)	0.095*** (0.028)	0.099*** (0.029)
StatusNF	−1.198*** (0.053)	−0.995*** (0.055)	−0.722*** (0.054)
StatusPF	0.161*** (0.047)	−0.057 (0.048)	0.449*** (0.051)
ICT Use*Dutiful	−0.001** (0.001)		
ICT Use*Respectful		−0.001*** (0.0003)	
ICT Use*Subject			−0.005*** (0.002)
Constant	−1.518*** (0.139)	−0.737*** (0.123)	−1.632*** (0.136)
Observations	14,136	14,136	14,136
Log Likelihood	−9,027.766	−9,126.067	−8,918.015
Akaike Inf. Crit.	18,077.530	18,274.130	17,858.030

Note: *p<0.1; **p<0.05; ***p<0.01

Table 6.22: Results for Logistic Regression of Petition Signing on Dutiful Norms Variables (Might Do vs. Have Done)

	Dependent variable:		
	Petition Signing (Might Do (0) vs. Have Done (1))		
	(Dutiful)	(Respectful)	(Subject)
ICT Use	0.029** (0.013)	0.035*** (0.009)	0.041*** (0.010)
Dutiful	0.012** (0.005)		
Respectful		−0.001 (0.003)	
Subject			0.158*** (0.015)
Age	0.019*** (0.001)	0.019*** (0.001)	0.016*** (0.002)
Sex	0.178*** (0.042)	0.183*** (0.042)	0.167*** (0.043)
Education	0.087*** (0.011)	0.084*** (0.011)	0.093*** (0.011)
SES	−0.016 (0.018)	−0.026 (0.018)	0.009 (0.019)
Post-Mat.Values	−0.055* (0.034)	−0.065* (0.033)	−0.063* (0.034)
StatusNF	−0.906*** (0.081)	−0.880*** (0.086)	−0.462*** (0.084)
StatusPF	−0.371*** (0.061)	−0.529*** (0.064)	0.045 (0.062)
ICT Use*Dutiful	0.001 (0.001)		
ICT Use*Respectful		0.0003 (0.0003)	
ICT Use*Subject			−0.002 (0.002)
Constant	−2.038*** (0.187)	−1.691*** (0.162)	−2.733*** (0.176)
Observations	8,824	8,824	8,824
Log Likelihood	−5,769.049	−5,783.229	−5,594.709
Akaike Inf. Crit.	11,560.100	11,588.460	11,211.420
Note:			*p<0.1; **p<0.05; ***p<0.01

Overall, these results support the theoretical postulates discussed in chapter 2. However, they show that it is the more holistic "All-Around" norms type rather than the pure "Engaged" citizenship norms that boost the impact of ICT Use on willingness to participate. It is unclear precisely how to interpret this, since, as the creators of these variables themselves admit, little distinguishes the two types of norms other than that those with All-Around norms include a few additional types of institutionally-linked participation as part of the socially normative repertoire of political participation. Still more puzzling is the negative impact of pure engaged norms on the effect of ICT use. One possibility is

that high engaged norms countries, or at least the sample of countries with high engaged norms considered here, have institutional mechanisms for addressing citizens' grievances that act as an alternative to contentious collective action. In Japan, for example, citizens have a number of institutional or quasi-institutional channels for addressing grievances, such as consumer advocacy groups with strong connections to the Japanese bureaucracy. Citizens might prefer such organizations or institutions to contentious collective action, regardless of their conception of the "good citizen". In such a context, use of the internet and social media might increase citizens' overall willingness to participate in collective action, in some idealized sense, without making them more likely to have actually protested. Another possibility is that these results are simply a product of desirability bias. That is, whereas many people might in principle agree that good citizens ought to be willing to act collectively to secure a public good, they in-truth might be less willing to participate. And, the stronger the consensus on such a principle, the stronger an impetus there is to overstate one's willingness to participate. It might be the case that, if we were to measure respondents' willingness to participate more precisely, the results could differ. Of course, it could also be the case that respondents simply have not had the opportunity to participate in collective action. A final important point that the results make clear is that the Dutiful Norms variables all appear to reduce the impact of technology use on willingness to engage in protest, as suggested by the theory posed in Chapter 2, though it does not have this effect on having actually participated in any of the collective action types.

6.4.2 Main Results for H2

Figure 6.13 shows the total number of population adjusted protests that occurred in high and low engaged norms countries between 2010 and 2017. The Figure shows that

high engaged norms countries consistently display higher numbers of protests per 100,000 inhabitants across the entire time period. While protest in the high engaged norms group decrease after 2015, there remains a gap of about 200 between the two countries in the final year of the interval, supporting H2.

Figure 6.13: Number of Protest Events (Per 100,000)

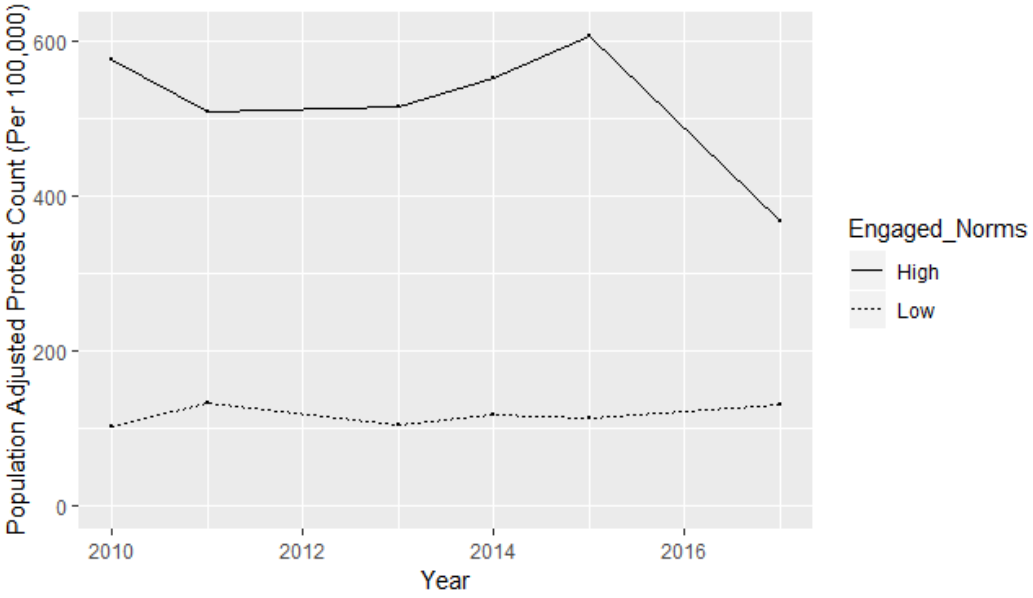


Table 6.23 shows the results for the regression of population adjusted daily protest count on the engaged norms dummy. The results show that, on average, engaged norms countries experience log 1.234 more protests per day than do low engaged norms countries, which translates into about 0.21 extra protests on average.

Table 6.23: Results of Negative Binomial Regression of Engaged Norms Dummy on Population Adjusted Protest Count

	Dependent variable:
	Protests (Per 100,000)
PR2	1.343^{***}
	(0.036)
PR3	-0.862^{***}
	(0.086)
PR4	-1.232^{***}
	(0.089)
High Engaged Norms	1.234^{***}
	(0.042)
Constant	-1.840^{***}
	(0.048)
Observations	6,273
Log Likelihood	−5,019.756
θ	9,768.604 (12,715.810)
Akaike Inf. Crit.	10,049.510
Note:	*p<0.1; **p<0.05; ***p<0.01

6.5 Discussion

The results presented here provide a good amount of support for H1, in so far as the effect of ICT use is more strongly correlated with willingness to participate in All three collective action types. At the same time, the results are somewhat mixed, since this same interaction effect does not appear to increase the probability of having actually engaged in the action.

Still, the results are largely supportive of the theoretical postulates proposed in chap-

ter 2, and they can largely be reconciled with postulates 1 and 2. Recall that postulate 1 states that weak tie sharing is more strongly associated with collective action in high engaged norms contexts. The results presented here do indeed support this postulate in so far as they show that ICT use, which is known to be highly correlated with thin-tie connections, is more strongly correlated with a willingness to participate in boycotts, protests, and petitions. Now, the WVS question wording does not sufficiently explain what is meant by each action type. It is likely that respondents in all countries interpreted each action type to mean the traditional offline of action. It seems unlikely, for instance, that respondents were primed to consider endorsing a call to action on social media as the same as "Attending peaceful demonstrations," as specified in the WVS 2010-2014 codebook. A reasonable inference here is that, while the increase in thin-tie contacts and cross-cutting exposure generated by technology use may result in higher increases in the general willingness to participate in collective action in some fashion in high engaged norms contexts, it may not necessarily lead to higher what I will call "on the ground" participation as traditionally conceived.

However, as the test of H2 shows, there clearly are far more protests in high engaged norms countries, at least in the time interval considered here. This might seem perplexing but the results of the survey experiment in chapter 4 suggest a solution. It may be the case that thin-tie connectivity generates higher rates of virality of collective action and social movements in high engaged norms countries because people are more willing to publicly endorse or engage in low-cost participation owing to the increase social and individual-level psychological influence. But it may be the same individuals and organizations participating. It may just be that they do it more frequently because there are more frequent public rises in support for such activity due to the shared perception of such activities as being normative or expected behaviors, whether or not they are directly involved in them.

Chapter 7

Conclusion

In *Power and Movement*, Sydney Tarrow describes contentious collective action as occurring "when ordinary people, often in league with more influential citizens, join forces in confrontation with elites, authorities, and opponents" (Tarrow, 1998: P.3). In this respect, the essence of contentious collective action has not changed in the digital era.

What has changed is the speed with which movements can grow, the mobilizational tools available, and the manner in which social movements rise and the direction they take. The diffusion of ICT and the rapid evolution of technological affordances have resulted in an explosion of possibilities for political mobilization. The Yellow Vest protests in France, the ongoing #BlackLivesMatters movement, and the Umbrella Movement in Hong Kong, are but a few examples of the rise of digitally networked political action.

These movements represent a significant departure from because they are spontaneous, horizontal, and often only marginally connected to established political organizations and institutions in way that was not true of pre-digital social movements. Just as any given internet meme can "go viral" under the right circumstances, so can political issues capture the attention of broad swaths of the populace independently of the influence of organizations, mainstream news media, or politicians. Indeed, in this sense,

social movements in the digital era can be thought of as viral amoebic-like creatures that take on a life of their own. Because of this boneless structure they can sometimes be nonstrategic, amorphous, and uncoordinated. On the other hand, they can also be forces of real political change, as witnessed in the ousting of Korean president Park Geun-hye in 2017.

Some see these changes in a positive light, while some others them as potential threats to effective mass action: my purpose here is not to address this important debate. Rather, I wish to point out that common to both of these positions is a strain of technological determinism, which takes a linear view of the development of technology to its end uses. It is hoped that the theoretical insights and the empirical results of this dissertation make it clear that the way technology is used by the people to affect politics will vary according to political culture of a given people.

Pinch and Bijker (1984) argue that the meaning and use of a given technology, or "artefact" as they refer to it, depends depends upon the shared meaning of a relevant group, which obtains when a group of people "share[s] the same set of meanings attached to a specific artefact" (Pinch & Bijker, p.414). In this dissertation I have merely expanded this line of reasoning to the realm of contentious mass political action. The technologies that make DNCA possible may be available in any country in the world. They may even be exactly the same: the same social network platform, the same messaging service, etc. But this does not mean that we should expect the extent to which these technologies are conceived of as part of the solution to political problems to be uniform across nations. Instead, we should view this as a function of the extent to which relevant social groups perceive them to be so.

I have argued that the extent to which is true at the national level, that is, as an observable and measurable national characteristic, is in turn a function of political culture. Specifically, it is a function of the way in which citizens tend to see themselves in relation

to the state and political institutions. In countries where citizens tend to think that a citizen's proper role is limited to participation in formal institutions under the auspices of the state, it is less likely that ICT will be used for political action outside of these formal institutions. Where people tend to think that citizen's should have a more direct role in politics, it is more likely that they will perceive the internet and social media as a normal part of political engagement. Further, I have argued that this political culture variable is critical to networked political action precisely because networked movements are inherently dynamical systems, meaning they are highly sensitive to initial conditions.

The task of verifying this set of propositions empirically is a complex and challenging endeavor in which this dissertation is but the first step. As such, it has a number of limitations and leaves a good deal of work to be done. Firstly, this dissertation is largely a comparative study of two cases: Japan and South Korea. As such, further studies will be required in order to see if the contours of the theory proposed here can explain variation in networked collective action more broadly; that is, future studies will be needed to assess its generalizability. The large(r)-N study in chapter 6 is suggestive, but it is limited by available data on citizenship norms and by the specifications of the dependent variable provided by the WVS. Since this is largely a theory about digitally networked political action, future studies will need to develop a systematic way of quantifying various aspects of DNCA, such as a shared set of criteria for identifying DNCA and measuring the extent to which it is truly networked and horizontal.

Secondly, moving forward scholars will need to set out a shared operational definition and measurement of engaged norms. One issue that will need to be clarified is whether participatory democracy and engaged norms are separate concepts, or whether they tap into essentially the same underlying concept. As mentioned, some scholars have argued that these are essentially the same concepts (e.g., Cho & Kim, 2017), but the two concepts do differ in that engaged norms explicitly draws a division between institutionally linked

participation and extra-institutional participation, whereas participatory democracy is a broader concept that does not necessarily involve such a distinction, but that could potentially encompass non-institutional participation. The results of this study suggest that the two concepts are certainly related, but that they may differ in the extent to which they mediate the effect of collective action appeals on social media.

Finally, it is important to note that this study only covers one aspect of digitally networked collective action. While digitally mediated thin-tie networks are critical to DNCA, they do not exist in complete isolation from other factors known to be important in collective specifically. Future studies ought to seek to better understand how organizations and influential individuals operate in a given political culture and digital environment. Indeed, some scholars have already begun to identify how the rise of digital networks has affected the way political organizations operate (e.g., Bimber et al., 2013; Karpf, 2017), as well as the role that influential individuals play in ostensibly horizontal networks (Trott, 2018). Comparative scholars can extend this literature by placing it in the context of a given distribution of citizenship norms.

Appendix A

Appendix for Chapter 4

A.1 Descriptive Statistics

Table A.1: Variable Means by Country

Country	N	Age (SD)	Education (SD)	Income (SD)	Ideology (SD)
Japan	1079	3.55 (1.27)	3.33 (0.99)	2.63 (0.98)	5.30 (2.02)
Korea	414	3.27 (1.40)	3.35 (1.09)	2.55 (1.09)	4.66 (1.94)

Table A.2: Sex

	Korea		Japan	
Sex	N	Proportion	N	Proportion
Female	191	0.46	499	0.46
Male	222	0.54	580	0.54

Table A.3: Age

	Korea		Japan	
Age	N	Proportion	N	Proportion
18-24 (1)	61	0.15	46	0.04
25-34 (2)	68	0.16	182	0.17
35-44 (3)	87	0.21	334	0.31
45-54 (4)	103	0.25	237	0.22
55-64 (5)	85	0.21	210	0.19
64 <	10	0.02	70	0.06

Table A.4: Education

	Korea		Japan	
Highest Level Completed	N	Proportion	N	Proportion
Middle School or Below	12	0.03	15	0.01
High School	114	0.28	283	0.26
College	54	0.13	188	0.17
University	184	0.44	517	0.48
Graduate/Professional School	50	0.12	76	0.07

Table A.5: Income

	Korea		Japan	
Income	N	Proportion	N	Proportion
Lower Income	82	0.20	178	0.16
Lower-middle income	124	0.30	228	0.21
middle Income	120	0.29	511	0.47
Upper-middle Income	76	0.18	136	0.13
Upper Income	12	0.03	26	0.02

Table A.6: Political Ideology

	Korea		Japan	
Ideology	N	Proportion	N	Proportion
0 (Very Liberal)	10	0.02	17	0.02
1	10	0.02	35	0.03
2	36	0.09	39	0.04
3	52	0.13	80	0.07
4	57	0.14	126	0.12
5	145	0.35	344	0.32
6	41	0.10	160	0.15
7	30	0.07	138	0.13
8	19	0.05	76	0.07
9	9	0.02	32	0.03
10 (Very Conservative)	5	0.01	32	0.03

Balance Tables

Table A.7: Variable Means for Protest Experimental Groups

Country	Experimental Group	Age	Sex	Edu	Inc	Ideology
Japan	Control	3.67	0.52	3.31	2.52	5.28
Japan	Acquaintance	3.48	0.51	3.30	2.70	5.36
Japan	Friend	3.49	0.58	3.38	2.68	5.26
Korea	Control	3.30	0.57	3.38	2.60	4.57
Korea	Acquaintance	3.14	0.51	3.30	2.54	4.86
Korea	Friend	3.37	0.53	3.37	2.50	4.56

Table A.8: Variable Means for Boycott Experimental Groups

Country	Experimental Group	Age	Sex	Edu	Inc	Ideology
Japan	Control	3.58	0.52	3.39	2.61	5.26
Japan	Acquaintance	3.50	0.53	3.27	2.63	5.29
Japan	Friend	3.57	0.57	3.34	2.66	5.35
Korea	Control	3.31	0.55	3.47	2.52	4.64
Korea	Acquaintance	3.25	0.51	3.28	2.56	4.63
Korea	Friend	3.26	0.55	3.29	2.56	4.71

Table A.9: Variable Means for Petition Experimental Groups

Country	Experimental Group	Age	Sex	Edu	Inc	Ideology
Japan	Control	3.67	0.52	3.31	2.52	5.28
Japan	Acquaintance	3.48	0.51	3.30	2.70	5.36
Japan	Friend	3.49	0.58	3.38	2.68	5.26
Korea	Control	3.30	0.57	3.38	2.60	4.57
Korea	Acquaintance	3.14	0.51	3.30	2.54	4.86
Korea	Friend	3.37	0.53	3.37	2.50	4.56

Table A.10: Size of Treatment and Control Groups

Country	Protest	N	Boycott	N	Petition	N
Japan	Acquaintance	352	Acquaintance	367	Acquaintance	362
Japan	Control	362	Control	351	Control	344
Japan	Friend	365	Friend	361	Friend	373
Korea	Acquaintance	134	Acquaintance	130	Acquaintance	133
Korea	Control	141	Control	144	Control	141
Korea	Friend	139	Friend	140	Friend	140

A.2 Sample Social Media Post

The simulated social media posts were constructed to ensure maximum verisimilitude, while also ensuring that Korean and Japanese pots were maximally similar in order to prevent any features of the Tweets from acting as confounders. Figure 1 is an example of one of the Tweets used in the experiment.

Figure A.1: Sample Simulated Tweet

A.3 Regression Results

Table A.11: Difference in ATE of Weak-Tie Appeal

	Dependent variable:Endorse Protest Post	
	(1)	(2)
Treatment (Acquaintance)	−0.178**	−0.178**
	(0.071)	(0.071)
Korea	0.524***	0.505***
	(0.094)	(0.095)
Age		0.053**
		(0.023)
Sex		0.023
		(0.061)
Education		−0.058*
		(0.032)
Income		0.073**
		(0.032)
Ideology		−0.051***
		(0.015)
Treatment (Acquaintance)*Korea	0.331**	0.354***
	(0.135)	(0.135)
Constant	0.199***	0.266
	(0.050)	(0.164)
Observations	989	988
R^2	0.101	0.120
Adjusted R^2	0.099	0.113
Residual Std. Error	0.952 (df = 985)	0.944 (df = 979)
F Statistic	37.087*** (df = 3; 985)	16.758*** (df = 8; 979)
Note:		*p<0.1; **p<0.05; ***p<0.01

Table A.12: Difference in ATE of Strong-Tie Appeal on Motivation to Endorse Protest Post

	DV: Endorse Protest Post	
	(1)	(2)
Treatment (Friend)	−0.112	−0.108
	(0.070)	(0.069)
Korea	0.524***	0.509***
	(0.093)	(0.093)
Age		0.076***
		(0.023)
Sex		−0.001
		(0.060)
Education		−0.045
		(0.031)
Income		0.070**
		(0.031)
Ideology		−0.058***
		(0.015)
Treatment (Friend)* Korea	0.227*	0.223*
	(0.132)	(0.131)
Constant	0.199***	0.198
	(0.049)	(0.161)
Observations	1,007	1,006
R^2	0.088	0.115
Adjusted R^2	0.085	0.108
Residual Std. Error	0.938 (df = 1003)	0.927 (df = 997)
F Statistic	32.324*** (df = 3; 1003)	16.240*** (df = 8; 997)
*Note**		*p<0.1; **p<0.05; ***p<0.01

Regression Results for Tests of Heterogeneity in Effect of Weak Tie Appeals

Table A.13: Weak Tie Appeal ATE Conditional on Engaged Norms (Korea Only)

	*Dependent variable*Endorse Protest*	
	(1)	(2)
Treatment	−0.048	−0.019
	(0.177)	(0.180)
Engaged Norms	0.082	0.075
	(0.066)	(0.068)
Age		0.043
		(0.042)
Sex		0.055
		(0.117)
Education		−0.057
		(0.058)
Income		0.067
		(0.058)
Ideology		−0.040
		(0.030)
Treatment*Engaged Norms	0.137	0.132
	(0.097)	(0.099)
Constant	0.609***	0.641**
	(0.120)	(0.274)
Observations	275	274
R^2	0.045	0.057
Adjusted R^2	0.035	0.029
Residual Std. Error	0.913 (df = 271)	0.917 (df = 265)
F Statistic	4.267*** (df = 3; 271)	2.021** (df = 8; 265)
*Note**		*p<0.1; **p<0.05; ***p<0.01

Table A.14: Weak Tie Appeal ATE Conditional on Engaged Norms (Japan Only)

	Dependent variable:Endorse Post	
	(1)	(2)
Treatment	−0.131*	−0.130*
	(0.074)	(0.074)
Engaged Norms	0.256***	0.246***
	(0.040)	(0.041)
Age		0.039
		(0.028)
Sex		0.025
		(0.070)
Education		−0.064*
		(0.037)
Income		0.054
		(0.037)
Ideology		−0.031*
		(0.017)
Treatment*Engaged Norms	−0.047	−0.053
	(0.059)	(0.059)
Constant	0.067	0.158
	(0.053)	(0.199)
Observations	714	714
R^2	0.091	0.103
Adjusted R^2	0.087	0.093
Residual Std. Error	0.921 (df = 710)	0.919 (df = 705)
F Statistic	23.746*** (df = 3; 710)	10.102*** (df = 8; 705)
Note:		*p<0.1; **p<0.05; ***p<0.01

Table A.15: Weak Tie Appeal ATE Conditional on Heterogeneity (Japan Only)

	Dependent variable: Endorse Post	
	(1)	(2)
Network Heterogeneity	0.025**	0.023**
	(0.010)	(0.010)
Treatment	0.201	0.223
	(0.209)	(0.209)
Age		0.055*
		(0.029)
Sex		0.012
		(0.072)
Education		−0.054
		(0.038)
Income		0.051
		(0.038)
Ideology		−0.053***
		(0.018)
Treatment(Acq.)*Het.	−0.026*	−0.027**
	(0.013)	(0.013)
Constant	−0.163	−0.011
	(0.150)	(0.248)
Observations	714	714
R^2	0.018	0.039
Adjusted R^2	0.014	0.028
Residual Std. Error	0.958 (df = 710)	0.951 (df = 705)
F Statistic	4.256*** (df = 3; 710)	3.607*** (df = 8; 705)
Note:		*p<0.1; **p<0.05; ***p<0.01

Table A.16: Weak Tie Appeal ATE Conditional on Network Heterogeneity (Korea Only)

	Dependent variable:Endorse Post	
	(1)	(2)
Treatment(Acq.)	0.349	0.400
	(0.351)	(0.354)
Age		0.049
		(0.043)
Sex		0.059
		(0.118)
Education		−0.073
		(0.059)
Income		0.072
		(0.059)
Ideology		−0.054*
		(0.031)
Network Het.	−0.016	−0.017
	(0.015)	(0.015)
Treatment(Acq.)*Network Het.	−0.014	−0.016
	(0.022)	(0.022)
Constant	0.971***	1.101***
	(0.242)	(0.376)
Observations	275	274
R^2	0.023	0.042
Adjusted R^2	0.012	0.013
Residual Std. Error	0.923 (df = 271)	0.925 (df = 265)
F Statistic	2.134* (df = 3; 271)	1.454 (df = 8; 265)
Note:		*p<0.1; **p<0.05; ***p<0.01

A.4 Regression Results for Mediation Analysis

Table A.17: Effect of Weak Tie Appeal on Opinion Expression Avoidance (Japan Only)

	DV: Opinion Expression Avoidance		
	(1)	(2)	(3)
Treatment (Acq.)	0.316**	0.281**	0.281**
	(0.141)	(0.139)	(0.139)
Age		−0.261***	−0.261***
		(0.055)	(0.055)
Sex		−0.011	−0.011
		(0.140)	(0.140)
Education		0.052	0.052
		(0.074)	(0.074)
Income		0.022	0.022
		(0.074)	(0.074)
Ideology		0.044	0.044
		(0.034)	(0.034)
Engaged Norms			0.205***
			(0.060)
Constant	4.809***	5.208***	5.208***
	(0.099)	(0.400)	(0.400)
Observations	714	714	714
R^2	0.007	0.053	0.053
Adjusted R^2	0.006	0.044	0.044
Residual Std. Error	1.881 (df = 712)	1.844 (df = 706)	1.844 (df = 706)
F Statistic	5.026** (df = 1; 712)	5.673*** (df = 7; 706)	5.673*** (df = 7; 706)
Note:			*p<0.1; **p<0.05; ***p<0.01

Table A.18: Effect of Strong Tie Appeal on Opinion Expression Avoidance (Japan Only)

	DV:Opinion Expression Avoidance		
	(1)	(2)	(3)
Treatment (Friend)	−0.064	−0.114	−0.110
	(0.140)	(0.140)	(0.140)
Age		−0.197***	−0.201***
		(0.055)	(0.056)
Sex		−0.138	−0.134
		(0.142)	(0.142)
Education		0.069	0.067
		(0.076)	(0.076)
Income		0.114	0.112
		(0.076)	(0.076)
Ideology		0.005	0.008
		(0.035)	(0.035)
Engaged Norms			0.031
			(0.060)
Constant	4.809***	5.062***	5.055***
	(0.099)	(0.410)	(0.411)
Observations	727	727	727
R^2	0.0003	0.026	0.027
Adjusted R^2	−0.001	0.018	0.017
Residual Std. Error	1.891 (df = 725)	1.872 (df = 720)	1.873 (df = 719)
F Statistic	0.210 (df = 1; 725)	3.225*** (df = 6; 720)	2.799*** (df = 7; 719)
Note:			*p<0.1; **p<0.05; ***p<0.01

A.5 Survey Questions

Demographics

Q70 What is your gender?

Q71 What is the highest level of education you have achieved?

Q72 How would you describe your level of annual household income?

Q73 What is your age?

Preamble

You are being invited to participate in a research study titled 2018 Political Attitudes Survey. This study is being done by Matthew Jenkins from the University of California, Santa Barbara. The purpose of this research study is to measure citizens' attitudes towards involvement in democracy. If you agree to take part in this study, you will be asked to complete an online survey/questionnaire. This survey/questionnaire will ask about your thoughts and opinions about various forms of political participation and it will take you approximately 15 minutes to complete. We hope that your participation in the study may result in a greater understanding of what people like you think about involvement in democracy in the contemporary era. We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by removing any identifying information with your survey, and maintaining a close watch over the surveys we generate. Your information will be used for research purposes only and will not be shared with any marketing or Governmental agencies. Your participation in this study is completely voluntary. If you have questions about this project or if you have a research-related problem, you may contact the researcher at mdjenkins(at)umail.ucsb.edu. If you

have any questions concerning your rights as a research Subject, you may contact the University of California Santa Barbara Human Subjects Committee (HRC) at (805-893-3807) or hsc(at)research.ucsb.edu. By clicking the icon below you are indicating that you are at least 18 years old, have read and understood this consent form and agree to participate in this research study. Please print a copy of this page for your records.

Internet and Social Networks

Q2 How much time each day do you spend on emails?

Q4 How much time per day do you spend on searching for news or information on the internet?

Q5 Do you use social media, such as Facebook or Twitter?

Q85 How much time do you spend on social media per day?

Q6 Which social media platform do you use most often?

Q7 What percent of your news do you get from social media?

Q79 Please think for a moment about the people on social media you know personally and are close to. How often do you see information about public affairs (politics, protests, etc.) from them in social media?

Q80 Please think for a moment about the people on social media you do not know personally or are not close to. How often do you see information about public affairs (politics, protests, etc.) from them in social media?

Q83 How often do you "like" social media posts about politics?

Q8 On an ordinary day, with how many family members, relatives, or close friends do you have face-to-face contact with? Your best estimate is...

Q87 On an ordinary day, with how many family members, relatives, or close friends do you have contact with through phone or internet (including text, email, social media, etc.)? Your best estimate is...

Q9 Think of the family or friends with whom you frequently interact. How similar are their views on politics to each other?

Q10 Again, think of the family or friends with whom you frequently interact. How similar are they to you in terms of your views on politics? Very Dissimilar Very Similar

Q11 On an ordinary day, with how many people other than family members, relatives, or friends, do you have contact through telephone, mail, internet, or face-to-face? This could be coworkers, people you see when you are outside or in a store or restaurant, or people you interact with online or in games. Your best estimate is...

Q12 Think of the non-family and non-friend contacts with whom you interact in the place where you work or go to school. Overall, how similar are these people to each other in terms of their political views? (0 = Very Dissimilar, 10 = Very Similar).

Q13 Again, think of the non-family and non-friend contacts with whom you interact in the place where you work or go to school. Overall, how similar are these people to you in terms of their political views? (0 = Very Dissimilar, 10 = Very Similar).

Q14 Now, think of the non-family and non-friend contacts with whom you interact in the place where you live. Overall, how similar are these people to each other in terms of their political views? (0 = Very Dissimilar, 10 = Very Similar).

Very Dissimilar Very Similar

Q15 Again, think of the non-family and non-friend contacts with whom you interact in the place where you live. Overall, how similar are these people to you in terms of their political views?

Q16 Now, think of the non-family non-friend people with whom you interact or come into contact with online (through social media, SNS, email, internet cafes, comment sections, etc.). Overall, how similar are these people to each other in terms of their political views?

Q17 Again, think of the non-family non-friend contacts with whom you interact or

come into contact with online (through social media, SNS, email, internet cafes, comment sections, etc.). Overall, how similar are these people to you in terms of your views on politics? (0 = Very Dissimilar, 10 = Very Similar).

Q18 How would you describe your views on politics?

Q19 How strong are your political views?

Q20 How well represented are you by existing political parties?

Q90 How much do you trust each of the following?

Q92 How much do you agree with the following statement?: "Ordinary people need to be more involved in politics"

Q93 How much do you agree with the following statement?: "Politics is for professionals, not ordinary citizens"

Q21 How interested are you in politics?

Q22 To what extent do you agree with the following statement?: "Public officials care what people like me think."

Q23 To what extent do you agree with the following statement?: "By using the Internet, people like me can have more political power."

Q96 People sometimes talk about what the aims of this country should be for the next ten years. Below are some of the goals which different people would give top priority. Please rank them from 1 to 4, where 1 is the most important, and 4 is the least important. You can do this by clicking on them and rearranging them.

Experimental Section

Q24 We'd like for you to provide us the given names of some people, some of whom you know and some not. Only provide the given name, not the family name.

Q25 First, please think of a popular celebrity, from music, or television or film. What is that person's given name?

Q26 Next, we'd like the given name of a friend whom you happen to see regularly. We don't want their family name.

Q27 Next, we'd like the given name of a public figure. This could be a writer, a community leader, a politician, etc.

Q28 Next, we'd like the given name of an acquaintance (someone you know by name from your neighborhood or workplace but who you do not consider a good friend.)

Q29 You will now be shown some Facebook posts. Please read the posts and then answer the questions. Some questions assume that you have a social media account. For these questions, please respond as if you have a social media account.

Online Political Participation

Q42 One way to participate in democracy is through the internet. We are now going to ask you a few questions about your use of the internet for politics and political information.

Q95 Have you ever shared political news or political information on the internet (through email, messenger service, text, etc.)?

Q44 How many times per month do you share political news or political information on the internet (through email, messenger service, text, etc.)?

Q94 Have you ever posted a comment on an online news article about politics or a social media post about politics?

Q46 How many times per month do you post comments on online news articles about politics or social media posts about politics?

Q45 Have you ever shared or re-posted an online post advocating for political action (such as a boycott, protest, petition, etc.) ?

Q47 People get involved in public affairs in different ways. Sometimes they go to marches or protests, sometimes they sign petitions that go to the government or to

companies, and sometimes they avoid buying products from certain companies for reasons that are ethical or that have to do with the company's practices. Some people do these things and some don't. We'd like to know about you.

Q48 Are you a member of a civic group or community association?

Q49 During the past 5 years, have you avoided buying any products or services because of ethical or political reasons?

Q50 During the past 5 years, have you signed a petition on the internet about a political or social issue?

Q84 During the past 5 years, have you participated in a protest or rally?

Q51 Which of the following words would you use to describe people who participate in political protests? Please choose up to two.

Q52 Please briefly explain your reasoning for your choices in the previous question.

Q53 Which of the following words would you use to describe people who express their political opinion online? Please choose up to two.

Q54 Please briefly explain your reasoning for your choices in the previous question.

Q55 In developing your views on politics, how much do you consider the opinions of well-known authors, intellectuals, or other influential figures?

Q56 To what extent do you worry about being shunned or looked down upon by others because of your political views or opinions?

Q62 Do you think use of the internet makes you worry more or less about being shunned because of your political opinions?

Q57 In deciding whether or not to participate in politics, how important is it that well-known authors, intellectuals, or other influential figures encourage participation or participate themselves?

Q58 How often do you wait to see what others' political opinions are before expressing your own?

Q59 Do you feel more free to express your political views online or offline?

Q60 To what extent do you avoid expressing your political opinions because you are worried about how others will perceive you?

Appendix B

Appendix for Chapter 6

Table B.1: Logit Results with Freedom House Scores

Dependent variable ("Never Do" vs. "Might Do")			
	Protest	Boycott	Petition
	(1)	(2)	(3)
ICT Use	0.010	0.024***	0.023***
	(0.007)	(0.007)	(0.006)
Engaged Norms	−0.487***	−0.377***	−0.623***
	(0.062)	(0.068)	(0.059)
SES	−0.016	−0.027*	−0.051***
	(0.015)	(0.016)	(0.014)
Post-Mat.	0.187***	0.036	0.105***
	(0.029)	(0.030)	(0.028)
Not Free	−1.089***	−1.051***	−1.261***
	(0.062)	(0.066)	(0.057)
Partly Free	−0.049	−0.341***	0.015
	(0.046)	(0.048)	(0.045)
ICT Use*Engaged Norms	0.046***	0.032***	0.037***
	(0.008)	(0.009)	(0.008)
Observations	13,376	14,227	14,136
Note:			*p<0.1; **p<0.05; ***p<0.01

Results for Individual Models

Table 2.2:

	Dependent variable: Protest				
	(1)	(2)	(3)	(4)	(5)
ICT Use	0.041***	−0.001	0.066***	0.055***	0.043***
	(0.007)	(0.010)	(0.010)	(0.007)	(0.008)
ICT Use*ENGAGED	0.00005				
	(0.0003)				
ICT Use*ALL		0.001***			
		(0.0002)			
ICT Use*Dutiful			−0.002***		
			(0.001)		
ICT Use*Respectful				−0.001***	
				(0.0003)	
ICT Use*Subject					−0.003**
					(0.001)
Constant	−0.918***	−0.736***	−1.514***	−0.773***	−1.142***
	(0.117)	(0.141)	(0.128)	(0.123)	(0.119)
Observations	13,376	13,376	13,376	13,376	13,376
Log Likelihood	−8,736.354	−8,728.300	−8,672.845	−8,704.359	−8,670.550
Akaike Inf. Crit.	17,490.710	17,474.600	17,363.690	17,426.720	17,359.100
Note:					*p<0.1; **p<0.05; ***p<0.01

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