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## **How Digital Communication Technologies Shape Protest**

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## ABSTRACT

Why do some protests succeed while others fail? Updated technology used for communication seems like it would help a protest have a higher chance of success, but governments possessing this ability as well could severely quell protests. In the end, I contend that with the added help of communication technologies higher levels of communication technologies lead to a higher rate of protest success. While protest success occurs in two parts, protest onset and actual success of the protest once it has begun, I hypothesize that higher levels of communication technologies lead to a higher rate of success in both of these categories. I test these hypotheses by looking at 384 protests in 165 countries during the time period 2000-2013. I run three regressions for protest onset and two regressions for protest success to test my hypotheses. I account for government digital capacity, government digital repression, population size, mobile phone penetration, and government repression in these regressions. I find support that citizen's use of communication technology before protests helps protest onset, while elite's usage of communication technology after the protest has already begun helps lead to the actual protest's success.

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## **Chapter 1**

### **Introduction**

The impactful events that occurred during the 2011 Arab Spring, including four dictators being successfully deposed, a dozen other regimes making major political and economic concessions, and civil war erupting in other countries across the Middle East and North Africa could not be ignored by political scientists (Hussain and Howard 2013, 48). Research on these events is essential to figure out what led to successes and failures of these protests and revolutions, especially considering the two countries with the largest Internet-using populations in the region, Tunisia and Egypt, were able to get rid of their dictators quickly (Hussain and Howard 54). Based on these events, there seems to be some sort of effect from Information and Communication Technologies (ICTs) on the success of the protests. ICTs are defined as, “Technology used to handle telecommunications, broadcast media, intelligent building management systems, audiovisual processing and transmission systems, and network-based control and monitoring functions” (Admin 2017). Garrett also finds, “ICTs such as cell phones, email, and the World Wide Web are changing ways in which activists communicate, collaborate, and demonstrate” (Garrett 2006: 1). ICTs give protestors easier means of communicating with each other and enable participants to organize movements and adapt to situations in real-time. What ICTs have the possibility to achieve is clear, but what they have actually accomplished has yet to be fully comprehended.

Research on ICTs and their effects on the success of protests and revolutions exists but is not entirely all-encompassing. Analysis of individual cases involving the role of internet and

cell-phone usage in protests and revolutions exists, but there has been very little done with studies spanning multiple country-years and including multiple ICTS. Individual case studies for different countries on how ICTs affect the success of individual protests and revolutions exist, like those of the 2011 Arab Spring, but time-series data would give much more depth to the research. That is the goal of my research. I want to see how ICTs affect the success of protests in general, in different countries around the globe, throughout the years. I aim to connect research done by political scientists on how different ICTs affect the success of protest and fill in the gap in research that exists for how ICTs affect different countries' success.

Knowledge about how protests operate, and how regimes quell those protests, can be very important for solving human rights issues in the future. Information gained on how protests are organized and succeed against repressive regimes can help citizens in restrictive countries earn their freedom. Learning about how these protests fail or succeed with the inclusion of technology, can help citizens in restricted countries gain more freedoms in as peaceful of a way as possible. Understanding what goes into a group protesting violently or non-violently can help regimes understand their citizens' problems and persuade the two sides to cooperate in a peaceful fashion in the future. This study aims to shed light on some of these issues, as well as answer the question, "Why do some protests succeed while others fail?" Specifically, my research breaks down protest success into two parts: protest onset and success of the protest after it has begun. My results suggest that protest onset and success both depend on the type of individual using online coordination, and whether the individuals are coordinating action before or after protest success.

In the sections that follow, I will do a thorough review of the literature on protests with technology. I will then present my argument, discuss the implications, and go over my

hypotheses. I will then explain my research, go over the results, and analysis what this means for Political Science and future research.



## Chapter 2

### Literature Review

Social science scholars have long pondered what factors lead protests to succeed, and what leads protests to ultimately fail. There are many different factors that have positive and negative effects on the success of protests, many of which are hard to differentiate on the social situation of the group or actor involved. One crucial element that lacks a large amount of significant research, mainly because of its sheer infancy, is the use of ICTs in affecting protest success. Many scholars have commented on the effect of modern communication technology on political action, but the actual social science is only slowly catching up (Pierskalla and Hollenbach 2013: 207). With the minimal amount of data and research, the evidence in support of ICTs effects on political action are conflicted: Some studies find that better ICT—or exposure to new political information more generally—leads to more anti regime (or anti–status quo) beliefs and action while others find the opposite (Little 2016). It is unknown what exact impacts, if any, ICTs have on solving collective action issues, but that is what I aim to find out.

#### **The Primary Challenge for Social Movements: Facilitating Collective Action**

The main issue affecting the success of protests involves overcoming collective action issues. Obtaining accurate information is a very important factor for whether a protest succeeds or fails. People need to know whether a protest will make their life better or worse, and what the costs of protesting are. Both of these factors can change dramatically from a variety of factors including who is protesting, how many people are protesting, and the quality of life before and after protesting. Citizens may choose not to protest to avoid the possible repercussions but would

still enjoy the benefits if the protest succeeds. If every citizen has this mindsight, the protest becomes nonexistent.

Moving from protests onto full-fledged anti-regime action, Little divides these collective action issues into two coordination problems. The first is the political coordination problem, which looks at how citizens must decide whether to take anti regime action in the first place without knowing how many others dislike the regime enough to join. The other is the tactical coordination problem which looks at citizens deciding when, where, and how to protest against the regime, with uncertainty about what tactics their fellow protesters will select (Little 2016). Successful protest action relies on participants knowledge of the events and coordination of the actual events. The access and spread of this knowledge needs to be done through a quick and effective medium to overcome these tactical issues. But even overcoming these problems still lead to more issues for social movements.

### **Other Challenges Facing Social Movements**

While less significant than the collective action issues, social movements still face many other obstacles in mobilizing and achieving their goals. One of these main issues is resources. Resources are important to members thinking about joining a coalition. What citizens gain if the protest is successful and what the government can take away if not are both aspects that people need to contemplate before joining. Groups need resources to be successful, “coalitions require significant resources, both financial and temporal, and are therefore unlikely when either of these are scarce” (Van Dyke & Amos 2017). Physical resources aside, organization is incredibly important for mobilization, “organizational structures, such as a division of labor and

professional leaders, facilitate coalition” (Van Dyke & Amos 2017). Especially for a group seeking democracy, an organized, hierarchical structure is imperative for any kind of success. On top of this, groups that have ideological differences can inhibit coalition formation (Van Dyke & Amos 2017). Some ideological differences need to be set aside if members want to achieve a common goal. Even differing social dynamics and cultures pose trouble in organizing for protest success, “a lack of social ties and spaces for interaction can prevent groups from seeing their shared interests and thereby inhibit coalition formation” (Van Dyke & Amos 2017). These issues are what social scientists have mainly focused on when studying what helps protest success versus failure, but the biggest issue for protest success comes in overcoming the collective action problem.

### **New Communication Technology**

One relatively new and interesting mechanism that is being used to try to overcome this collective action problem is the use of new communication technology. The media, with the rise of technological tools, helps make social communication more powerful and networked (Kusuma 2018: 120). New communication devices and mediums, like the internet and cellular telephones, can provide citizens with an easier access to information and quick, long-distance spread of what has been gathered. This ease of communication can be very beneficial for a country’s growth, “telecommunications infrastructure can bring economic growth because it increases the demand for inputs which are used in its production and can reduce the transaction cost of firms” (Haftu 2019). Communication technology can improve production with easy and fast communication, as well as improve the production process with the spread of widespread knowledge to

employers and employees. Haftu finds that it improves productivity of inputs, lowers transaction costs, and facilitates the creation of knowledge (Haftu 2019). Communication technology has been found to have other positive impacts as well.

Nath and Liu find that communication technologies can positively affect trade, “by using ICT, firms are able to exchange information online from anywhere in the world, communicate just-in-time with clients and suppliers, and deliver services efficiently and promptly” (Nath & Liu 2017). Communication technology can also reduce the cost of entering the market and make it easier to find and communicate with distributors. Communication technology enables information to be gathered quickly, and makes organization more accurate and efficient, “By reducing delays in acquiring and transmitting information, the use of ICT also makes planning more efficient and accurate” (Nath & Liu 2017). For people looking to organize movements and take action, this technology makes this process significantly easier and more feasible.

### **Technology Facilitating Movements**

Communication technology helps groups with organization and provides access to important information for decision making. According to Pierskalla and Hollenbach, “the availability of cell phones as a communication technology allows political groups to overcome collective problems more easily and improve in-group communication and coordination” (Pierskalla and Hollenbach 2013: 211). For actual uprising and insurrection, Pierskalla and Hollenbach find that mobile-long distance communication addresses crucial free-rider and coordination problems endemic to insurgent activity (Pierskalla and Hollenbach 2013: 210). Alternative media platforms change the nature of protest mechanisms.

Even without demanding immediate action, these technologies provide citizens with information that was possibly previously hidden from them and can inspire them to organize action and mobilize. Communication technology helps decentralize and increase the spread of information as well as help bypass government propaganda (Pierskalla and Hollenbach 2013: 210). Aker and her colleagues find in that in the case of Mozambique, cell phones can be used to further voter education and can increase voter participation in elections, as well as demand for accountability (Aker et al. 2011; Pierskalla & Hollenbach 2013: 209). But, with this increase in information availability, there arises different issues affecting protests' success.

### **The Double-Edged Sword: Technology Working Against Social Movements**

While these new communication devices do help protestors communicate faster and more efficiently and provide access to a wider web of information, they also present a new issue: the “common knowledge constraint” (Cai & Zhou 2016: 753). The common knowledge constraint is the issue that the information on a proposed protest that protest organizers release to other potential protestors can also be known by the government. For example, in the case of Tunisia, the organized action circulating social media led to a complete media blackout by the government. The chances are that if a country's citizens have widespread access to these communication technologies, the governing body does as well. And, when a country's governing body has access to this protest information or dissent against the government, chances are it also has the ability to censor information, creating big problems for the protesting group.

Censorship was apparent during the protests in Tunisia during the Arab Spring when the government issued a complete media blackout. Citizens in China also run into this issue frequently, with China's tight hold over the media and the spread of information. While China does not normally censor every piece of information available that criticizes the regime, they do heavily censor references to and calls for collective action (Little 2016). Coordination issues become hard to overcome when governments can easily see the information spread by protesting groups and have the ability to censor the information or control it.

Moving past information censorship, some regimes have proactively used the technology to control and manipulate citizens and movements. Elites with close ties in government have begun to use social media as a tool of regime stability, "social media has enabled non-democratic incumbents to safely gather previously hidden or falsified information about public grievances, to increase the transparency of the performance of local officials, to bolster regime legitimacy by shaping public discourse, and to enhance the mobilization of their support base" (Gunisky 2015). Media can be used by elites to shape the public perceptions at large, and counter-mobilize against protestors using the regime's support base (Gunisky 2015). The use of this technology also makes it less costly for regimes to monitor and intimidate. Governments like China have used new technology to recognize faces of protestors and compare the identity with databases controlled by the regime. Governments obtain data through online tools like social media and build profiles of possible dangerous persons to their regimes based on what they find. This use of technology makes it much less costly for regimes to maintain control and reduces the probability of insurrection from policing forces by using less human capital (Feldstein 2019).

Overall, there is evidence both in support of and against ICT's positive impact on the success of differing movements. I contend that ICT is an interesting, overlooked aspect of social

movements and overcoming collective actions issues and that is where the focus of my research will lie. I want to explore how, and if, these ICTs contribute to protest success. I will dive into what effect, if any, ICTs have on protest success by looking at them in terms of how they overcome the main issue with protest success: collective action.

## Chapter 3

### Theoretical Approach

The effect of ICTs on protests has become an interest to many political science scholars after the events of the Arab Spring in the Middle East. The research is becoming incredibly important, especially considering the use of ICTs for major socio-political confrontations has significantly increased in the past 15-20 years (Lysenko and Desouza 2012, 341). But, the research has focused mainly on the current protest events with relation to ICTs, and only how they affected the current protests. There is no real research done on how protests in countries fare when comparing before and after the rise of ICTs, such as the penetration of cell phones and the internet. This is the gap in literature I am looking to fill during my research. In contrast to these other scholars, my work compares the success of protests by individual countries before and after the rise of ICTs in the countries including several other factors.

ICTs have been found to have both a positive and negative relationship with campaign success. But, based on my research, I expect to find that higher ICT rates will be associated with higher rates of campaign success. Success of a protest is divided into two different parts. The first comes in actually generating a protest offline. Achieving protest onset is the first integral part in achieving success of the protest as a whole. The second part comes once the protest has actually started. Protest success after the protest has already begun looks at what the protest group receives as a result of their protesting actions. Success in protest relies heavily on overcoming a collective action or public goods problem. Olson describes this issue as, “occurring when a broadly desirable outcome is achievable if there is coordinated mass participation, but when individual participation is stifled by prohibitively high costs” (Olson



1971) (Tufekci 2012). Regimes are able to maintain control and disincentivize protests by punishing individuals for dissent. That is why high participation early on in protests is very important for that protest to succeed. Tufekci finds that in authoritarian regimes, high participation on the first day of protest is necessary to initiate the larger cascade that ultimately results in the success of a protest (Tufekci 2012). He also finds that social media use, especially for political purposes, was associated with significantly higher odds of protest participation on that crucial first day (Tufekci 2012).

This was the case in Egypt, with Tufekci finding that social media in Egypt mediated many kinds of ties and news, information, and the social support needed to spur participation in political protest (Tufekci 2012). ICTs give leaders of political protests the means to organize in real time. Developing situations can be solved quickly through communication with ICTs. Members of organizations become more trustworthy of each other by communicating with these types of technology and can find out if a governing body is weaker using information made available through this technology. All of this helps collectively to organize a large first protest with committed and educated members. Even if a government has the ability to see and censor the media, like was the case in Tunisia when the government shut down the internet for a few days during the events of the Arab Spring, governments cannot put a stop to every protest. This presents another dilemma for dictators of autocratic regimes, “allowing the increased availability of such technology, is crucial for regimes desiring economic development and global integration, but also threatens the very existence by allowing unfettered flows of information (Gunitsky 2015, 43).

There is much more that goes into restricting or stopping protest. As Cai and Zhou find, effectively stopping protests requires three things: awareness of the proposed action, perception

of the potential threat of the action, and resources at its disposal to stop that action (Cai & Zhou 2016: 734). Governments must fully understand the real threat that is being communicated through the use of ICTs before taking any action, which is quite difficult. That is why the first organized event of political action is so important for protest success. If the first protest can get many participants outside of the regime's knowledge the perceived threat of the protest to the regime will not be fully understood by the regime until the protest has already taken place. While the Internet or social media are quick and effective means of communication, it is a double-edged sword. They have the ability to spread effective rumors, as well as fake news and hatred (Kusuma 2018: 120). Since communication technology enables information to be spread at such a high rate, it can be difficult for regimes to discern what is a real threat. On top of this, ICT-facilitated protests are often leaderless, which makes it a problem for there to be arrests made of leaders or organizations to ban (Cai & Zhou 2016: 735). This reduces the cost of individual protestors taking part in physical protest and helps overcome the collective action problem.

For the purpose of my research, I will be looking at protests or "campaigns". A campaign is defined as, "A series of observable, continuous, purposive mass tactics or events in pursuit of a political objective" (Chenoweth and Shay 2019: 3). Success looks at the concessions received by the protesting group. The specific ICTs I will be looking at are cellular-telephone usage and internet usage. Cell phones have been linked to overcoming collective action issues which is a key component for protest success. Pierskalla and Hollenbach find that the availability of cell phones allows political groups to overcome collective problems more easily and improve in-group communication and coordination (Pierskalla & Hollenbach 2013: 211). There is also evidence of countries with higher internet usage leading to success in protests. During the events of the Arab Spring, Tunisia and Egypt, who had the most tech-savvy civil society Internet-using

populations in the Middle East region, were able to dispose of their dictators relatively quickly (Hussain & Howard 2013: 49). These two ICTs will be my main focus for their specific effects on protest success. But there is still much more that goes into whether a campaign succeeds or fails.

Wealth also plays a great role in countries' protest, so GDP per capita will also be studied. According to Hussain and Howard, this variable accounts for a large diversity in economic productivity across a region, which could have a large effect on a population's incentive to protest, and therefore, their success in protest (Hussain & Howard 2013: 53). A smaller middle class with a large lower class incentivizes more people to protest. The large number of people in the lower class have less to lose from protesting and are more likely to protest. On top of this, it will be important to research the type of regime the country has, as well as whether a campaign is violent or nonviolent. Stephen and Chenoweth have found that nonviolent campaigns are more successful than violent campaigns, with nonviolent campaigns achieving success 53% of the time, while violent campaigns only achieve success 26% of the time. (Stephen & Chenoweth 2008, 8).

### **Hypotheses**

Based on my research, I have come up with four hypotheses to test the effect of ICTs on campaign success. I have divided the use of ICTs into two separate categories: elites' use of ICTs to organize offline protest, and regular citizens' use of ICTs to organize offline protest. Protest success has also been divided into two separate categories: successful offline protest onset and success of the protest once it has actually started. The hypotheses I plan to test are:

*H1: Higher levels of **elite** usage of ICTs to organize offline protest leads to a higher chance of protest **onset***

*H2: Higher levels of **citizen** usage of ICTs to organize offline protest leads to a higher chance of protest **onset***

*H3: Higher levels of **elite** usage of ICTs to organize offline protest leads to a higher rate of protest **success***

*H4: Higher levels of **citizen** usage of ICTs to organize offline protest leads to a higher rate of protest **success***

Some political science scholars have already found some of these to be true through their research. Two scholars, Hussain and Howard, found that uprisings and protests during the Arab Spring in countries with higher rates of technology diffusion and significant, tech-savvy society found more success than countries with lower rates (Hussain & Howard 2013, 62). The reason for these hypotheses is the reduced cost of participation that comes with higher ICTs. It has been found that ICTs create new low-cost forms of participation leading to an upsurge in the numbers of participants, by altering the flow of political information (Garrett 2006, 5). Anderson finds the same, with internet use being positively and significantly related to protest participation (Anderson 2020, 2). Cardoso and Neto found similar results in their analysis of the 1999 East-Timor protest movement in Portugal. Through their research, the authors found that ICTs enabled the East-Timer protest movement to reach its objectives (Cardoso & Neto 2004, 16). In this case, it is also worth noting that the internet had a fairly low involvement with protests in Portugal before 1999. Lysenko and Desouza came to similar conclusions based on their work on the role of ICTs in the 2009 Moldova Revolution. The authors found that new internet-based

ICTs make it possible to conduct a successful revolution without previous in-person organization (Lysenko & Desouza 2012, 341).

Even with so many issues to overcome, ICTs still look to overall be a great benefit in protests finding success. There seems to be more for ICT's leading for success in protest than against. ICT-based protests become possible when: a government is inadequately prepared to respond to protests when it is unaware of the protests or its consequences or is unable to determine the amount of preparatory effort that is required to stop the action, and ICT users react faster than the government does after a triggering event occurs (Cai & Zhou 2016: 735). With so many moving pieces for the government to effectively stop the protests, protest success seems to become much more likely with the use of ICTs, because of how they enable protestors to overcome the collective action problem. In the following sections, I will be reviewing numerous country-years to test how much of an effect ICTs have on the success of campaigns.

## Chapter 4

### Data and Methodology

In the previous chapter, I have just explained my intrigue in understanding how ICTs affect the success of protest. In this chapter, I will explain how I plan to test the specific hypotheses I have previously outlined: how my independent variable, organizing offline action with ICTs, affect the success of campaigns. As I indicated before, I am especially interested in how government censorship, type of government, and the nonviolent or violent nature of a protest are involved with protest success or failure. I ran a few standard linear regressions to discern the relationship between these variables.

#### **Dependent Variables: Campaign Onset and Campaign Success**

To operationalize my first dependent variable, onset of protest, I will be using data from the Nonviolent and Violent Campaigns and Outcomes (NAVCO) Data Project. The specific version that was looked at was version 2.1. The dataset looks at different protests and revolutions classified as “campaigns”. The unit of analysis for this data set is the campaign-year. There are 384 campaigns included in the data set, divided into 2,717 campaign-years. The dataset looks at campaigns from the years 1945-2013. I will be using data from 2000-2013 in all countries as my sample. There are 165 unique countries in the analysis of this time period and 43 of these countries experience a protest onset at some point during this period. There are 4,927 country-years in this same period and 185 country-years have ongoing protest campaigns during the 2000-2013 period. The onset of protests variable for nonviolent campaigns was created using the campaign-year identifier if the protest was nonviolent.

My second variable, success, used to describe the success of a protest was also created using data from the NAVCO Data Project. The success variable was recoded using the progress variable. I used the “progress” variable from this dataset to look at campaign success and failure. The progress variable is coded based on campaign progress by each year. The ordinal variable identifies whether a campaign achieved some or all of its stated overall political objectives (Chenoweth and Shay 2019: 26). The variable was coded zero if status quo, 1 if there are visible gains short of concessions, 2 if limited concession achieved, 3 if significant concessions achieved, 4 if complete success, and 5 if campaign ends in failure (Chenoweth and Shay 2019: 26). The variable was then re-coded so that it will equal -1 if a campaign ends in failure as opposed to 5. Finally, to actual use in my research, the variable was recoded for success only if the progress variable was equal to 3 or 4 meaning a campaign achieved significant concessions or was a complete success resulting in regime change.

### **Independent Variables: Organizing Offline Action**

The main two independent variables in my analysis are: citizens using social media to organize offline action, and elites using social media to organize offline action. Both variables are included in the V-dem data set. The first variable for citizen’s social media use asks, “How often do average people use social media to organize offline political action of any kind?” (Source). The variable is an ordinal variable that is coded zero for never or almost never, 1 for rarely, 2 for sometimes, 3 for often, and 4 for regularly. The second variable for elite’s social media use asks, “How often do domestic elites use social media to organize offline political action of any kind?” (Source). The variable is an ordinal variable that is coded zero for never or

almost never, 1 for rarely, 2 for sometimes, 3 for often, and 4 for regularly. Both variables are converted to interval variables by the measurement model.

### **Control Variables**

I include five different control variables into my analysis. The first is the government digital capacity, which is lagged by 1 year. The variable is created from a combination of government capacity variables from *Digital Repression in Autocracy* (Frantz et al. 2020). The second variable is government digital repression, which is also lagged by 1 year. The variable is created from a combination of government digital repression variables from *Digital Repression in Autocracy* (Frantz et al. 2020). The third variable is the population size in a country which has been logged. The variable is stated as raw numbers. The fourth variable is the mobile phone penetration in each country which has been logged. This variable is stated in raw numbers. The last variable is the inverse of the human rights protection scores from Fariss's article *Respect for Human Rights has Improved Over Time: Modeling the Changing Standard of Accountability* (Fariss 2014). The variable is used to measure government repression and is lagged by 1 year. The variable ranges from -6 to 3 with higher values associated with higher values associated with more repression.

### **Methodology**

The empirical design accounts for all differences across countries by modeling country fixed effects. This means that the comparisons the model makes examine trends over time within particular countries: for example, as citizen mobilization using ICTs increases over time within a



country, does the chances of a large protest campaign starting increase as well? The estimates therefore do *not* reflect a comparison between countries to answer whether countries with more citizen mobilizing using ICTs increases protest campaign onset than in countries where citizens use less ICT to mobilize.

Second, to adjust for the fact that the price of ICTs for everyday use by citizens and elites is decreasing globally during the sample period while the geographic breadth of ICTs is increasing, the modeling strategy accounts for a global time trend in the independent variable by including year fixed effects. This accounts for the fact that the average level of ICT use is increasing globally over time.

Finally, I account for possible confounding variables to adjust for factors that might shape both protest onset and the use of ICTs to mobilize. These include: government digital capacity, government digital repression, population size, mobile phone penetration, and government repression. Government digital capacity is included as a control variable because the ability of a government to use ICTs could have an effect both protests and ICT use for mobilization. If governments have a high digital capacity, opportunities could open up to quell protests by enabling the government to coordinate efforts quickly to stop protests. Higher digital capacity can also give governments the ability to monitor online social media activity to see where and where protests are occurring.

Government digital repression could have a similar effect. If governments have a great ability to restrict citizen' and elites' use of ICTs, these people will have much greater difficulties organizing protests, and coordinating protests for offline success. A larger population size in a country could provide a protest in that country with more firepower to lead a successful protest, or a greater number of citizens could help contribute to the collective action problem with

citizens not wanting to participate in protests because they assume someone else will. A great mobile phone penetration could lead to a higher rate of protest onset and success because more citizens are able to communicate quickly in real time through cell phones to organize offline protests, and coordinate quickly to have a higher chance at success in protests. Finally, government repression was included as a control variable because a government with higher repression could have much more control over their citizens to quell both offline and online mobilization.

Regressions were run to determine the effect that ICTs have on the success of protest. To begin, a regression was run to determine the effect these technologies have on protest onset, before protest success. The government social media monitoring variable was included as a control variable. In another regression, variables were also included for citizens using social media and elites using social media. In a third regression, control variables were also included for population, repression, and digital capacity, as well as the inverse of human rights protection scores.

For determining actual protest success, two regressions were run. The first looked at campaign success with control variables included for citizens using social media, and elite using social media. The second regression was the same, but also included a control variable for the government social media monitoring.

## Chapter 5

### Results and Discussion

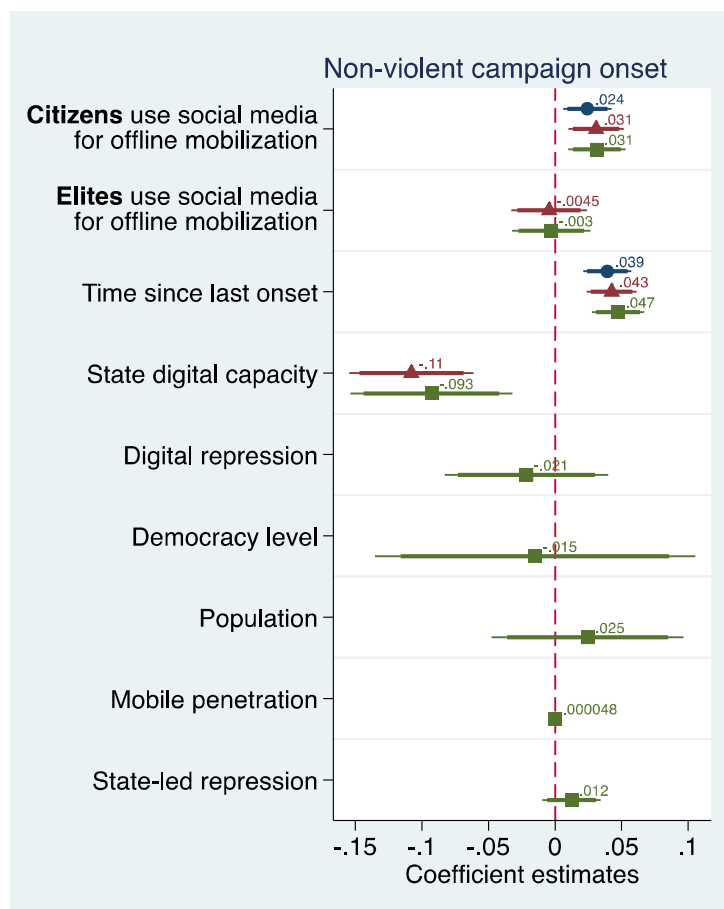
#### Protest Onset

Based on the results of the regressions, there were two big conclusions that came out. The first, is that the mobilization of citizens online for offline protest helps leads to protest onset. In the first regression, when only including time since the last protest onset, as citizens use of social media for offline mobilization increases by one standard deviation, the chance of non-violent campaign onset increases by 2.4 percentage points. Elite usage has a very minimal, if any, impact. The time since last onset is also positively correlated with non-violent campaign onset, with a one standard deviation increase being associated with a 3.9 percentage point increase in chance of non-violent campaign onset.

In the second regression, another control variable was included for state digital capacity. As citizens usage of social media for offline mobilization increases by one standard deviation, the chance of non-violent campaign onset increases by 3.1 percentage points. Elite usage still has very minimal impact. The time since last onset is still positively correlated with non-violent campaign onset, with a one standard deviation increase associated with a 4.3 percentage point increase in the chance of non-violent campaign onset. The digital capacity of the state plays the biggest role here. A one standard deviation increase in state digital capacity is associated with an 11 percentage point decrease in non-violent campaign onset.

In the third and final regression for protest onset, the control variables for digital repression, democracy level, population, mobile penetration, and state-led repression are also

included. The results are very similar to the first two. As citizens usage of social media for offline mobilization increases by one standard deviation, the chance of non-violent campaign onset increases by 3.1 percentage points, and the effect from elite usage is very negligible. The time since last onset is still positively correlated with non-violent campaign onset, with a one standard deviation I increase being associated with a 4.7 percentage point increase in the chance of non-violent campaign onset. Another interesting note here is the effect of population. As population increases by one standard deviation, the chance of non-violent protest onset increases by 2.5 percentage points. The digital capacity of the state still plays a fairly large role here. A one standard deviation increase in state digital capacity is associated with a 9.3-percentage point decrease in non-violent campaign onset. Thus even though citizens' and elites' use of social media to organize boosts protest mobilization, governments' digital capacity outweighs these effects.

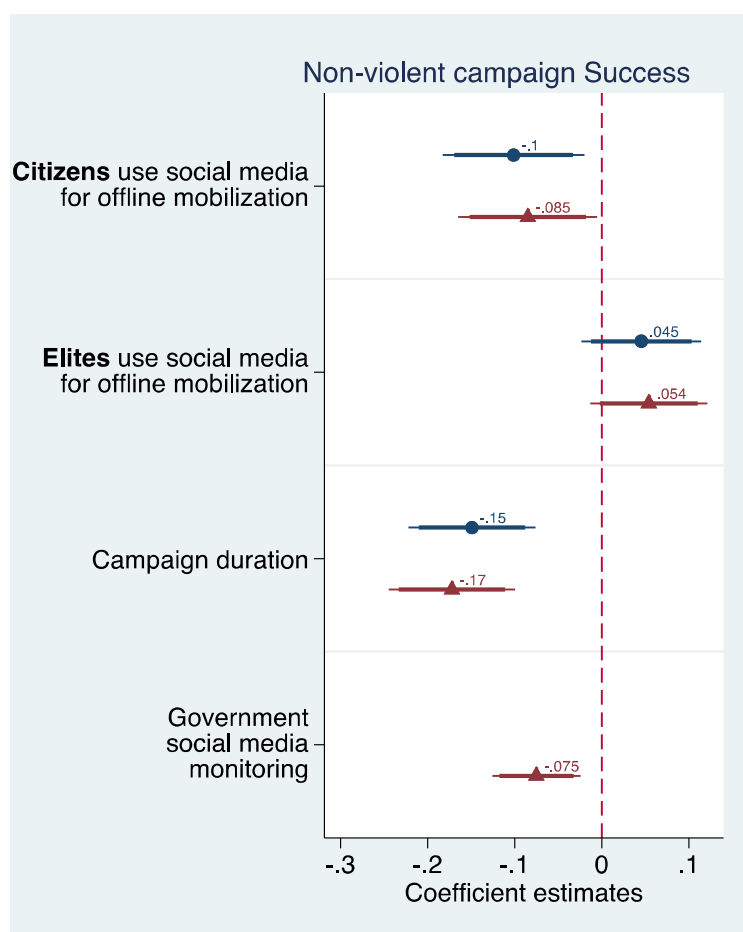
**Table 1: Non-Violent Campaign Onset**

### Protest Success

Moving on from the inception of protest, the results for protest success were very interesting. Based on the results, once the protest has been created, it makes more sense to organize mobilization offline rather than online. Citizen usage of social media for offline protest actually hurts protest success as a one standard deviation increase is associated with a 1 percentage point decrease in protest success when only controlling for campaign duration. But elite usage of social media for offline mobilization is even more correlated with success. As elite usage of social media for offline mobilization increases by one standard deviation, the chance of non-

violent protest success increases by 4.5 percentage points. And, when including government social media monitoring in the second regression, this moves up even higher to 5.4 percentage points. Another interesting note here is how the duration of the campaign affects protest success. When including government social media monitoring as a control variable, a one standard deviation increase in the duration of a campaign is associated with a 17 percentage point decrease in protest success. This latter estimate suggests that governments can counteract online mobilization by surveilling social media – perhaps to better target their efforts in deploying offline repression.

**Table 2: Non-Violent Campaign Success**



To summarize, citizens using social media help the onset of nonviolent protests, but when government surveils, there is less of a chance of nonviolent protest success. This leads me to fail to reject my first hypothesis.

*H2: Higher levels of citizen usage of ICTs to organize offline protest leads to a higher chance of protest onset*

Elite usage of social media for offline mobilization has little to no effect on protest onset leading me to reject my first hypothesis.

*H1: Higher levels of elite usage of ICTs to organize offline protest leads to a higher chance of protest onset*

Once a nonviolent protest has begun, more mobilizing by citizens online actually leads to a decrease in protest success. This leads me to reject my fourth hypothesis.

*H4: Higher levels of citizen usage of ICTs to organize offline protest leads to a higher rate of protest success*

Elite usage of social media for offline mobilization does lead to a higher rate of protest success leading me to fail to reject my third hypothesis.

*H3: Higher levels of elite usage of ICTs to organize offline protest leads to a higher rate of protest success*

The main conclusion from the results is **that online communication by citizens helps the onset of protest, but once the protest has started it is better for citizens to coordinate events outside of social media.** My assumption here is that once a protest has its first in person

event, the state gets wind of the protest and closely monitors it through social media. That is why it is better for citizens to go offline to organize mobilization after the protest has actually started in person if they want the protest to have a better chance at success. Elite usage of social media after the protest has already begun in person does have a positive effect on the chance of the protest succeeding. This could be for two reasons. The first being that since the elites have so much power in these countries and are possibly closely tied to the government there, the government is less inclined to either monitor the action of elites on social media, or less inclined to restrict their online presence. The reason for the positive relationship could be the power that elites possess in these countries. Elites may be less inclined to do much online before the protest has actually had an in-person, offline event, but after they see the protest has serious action, they can use their power and online influence to see the protest through to success. This is all in terms of non-violent protest. It is also worth noting that the effects on violent protest were so negligible that they were not included.



## **Chapter 6**

### **Conclusion**

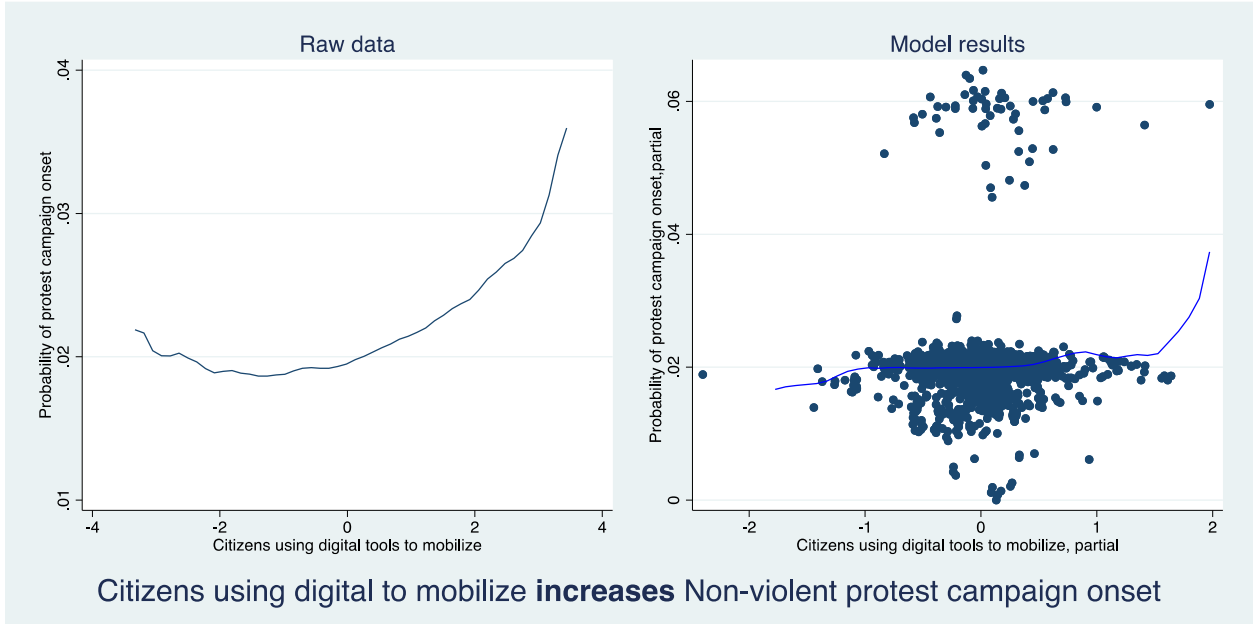
My research aimed to help shed some light on what role technology plays in protest success. As it turns out, communication technology helps increase the likelihood of protest onset when used by citizens and helps protest success when used by elites after the protest has started in person. This research suggests that once a protest has started, it is better for citizens to meet in person to organize mobilization for a better chance of the protest succeeding. One reason that citizens' continued use of online media during a protest is harmful to success may be that, once protests start, governments surveil online media more closely to identify citizens who dissent. The research helps confirm research by political science scholars that communications technology can help protests overcome the collective action problem that protests deal with. But the research also confirms findings by scholars that communication technologies are also a double-edged sword, because it gives government and other governing bodies real time updates of what protestors are up to and make it easy for the protests to be stopped.

It is important to consider that research and models can have flaws. The models looked at social media usage specifically for that effect on protest onset and success as opposed to the access to the internet, which leaves out other important communication material on the internet other than just social media. There is plenty of room in the future for further research. Different communication methods could be included in study, like newspapers for countries with less access to more updated technology. Communication through television could also be another avenue to be considered.

Regardless, there were gains made from this research. Communication technologies appear to help protestors overcome the collective actions issues that have been previously discussed, which is very important for a protest to get traction. This alone, unfortunately, does not contribute to protest success. But, moving forward, it is an important thing to note when conducting actual protest. Online mobilization is important for protest onset, but once the protest has actually begun, it can be counterintuitive for citizens to continue to organize mobilization online if the protest wants to succeed. I hope scholars can gain from this research, and hope that there are other opportunities for scholars to add to this already existing research on ICTs and protests.

# Appendix A

## Raw data and Results



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## ACADEMIC VITA

**Brendan Teufel**

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### **Education**

**The Pennsylvania State University**

*College of Liberal Arts*

*Bachelor of Arts in Political Science*

*Bachelor of Arts in Economics*

*Schreyer Honors College*

*Paterno Fellows Program, College of the Liberal Arts*

**University Park, PA**

*Class of 2022*

- Honors program including advanced academic coursework, thesis, study abroad and/or internship, ethics study, and leadership/service commitment
- 

### **Work Experience**

**Bower Law Associates PLLC**

*Legal Intern*

- Managed head lawyer's legal materials and visited clients to gather important information and present legal advice

**State College, PA**

*September 2021- Current*

**Vigilant Compliance LLC**

*Compliance Intern*

- Reviewed Investment Company and Investment Adviser Policies and Procedures for Compliance with Federal Securities Laws and performed testing to determine that those policies and procedures were reasonably designed as intended

**Glen Mills, PA**

*May 2021- Aug 2021*

**Waynesborough Country Club**

*Caddie and Outside Services*

- Demonstrated good time management with early, long work hours as well as developed great relationships with members and coworkers
- Took new caddies out to instruct them on proper golf etiquette and caddie techniques

**Waynesborough, PA**

*May 2018- Aug 2019*

**Cape May Beach Patrol**

*Certified Open Water Rescue Technician*

- Managed risk of an entire beachfront, developed public safety skills, and controlled unruly vacationers

**Cape May, NJ**

*Jun 2020- Aug 2020*

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### **Leadership and Involvement**

**Tau Kappa Epsilon Fraternity**

**PA**

*Primary THON Chair*

- Participated in Penn State's 46 Hour Dance Marathon and partnered with Tri Sigma Sorority to raise funds of over \$75,000 collectively for pediatric cancer patients through Four Diamonds by preparing and hosting events to fundraise
- Coordinated events for our organization's specific THON family, as well as stayed in constant contact for organization

**University Park,**

*May 2019- Present*

**Service trip**

- Visited local orphanages and elderly homes and conducted manual labor
- Taught English classes at local schools and colleges

**Chulucanas, Peru**

*Jun 2017*

**Liverpool Celtic Club Soccer**

*Captain*

- Gained leadership and team problem solving skills as captain for a highly competitive and successful soccer team

**Malvern, PA**

*May 2014- June 2018*

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### **Skills, Honors, and Interests**

**Skills:** Conversational in Spanish, CPR Certified, Microsoft Word, Microsoft Powerpoint, R Studio

**Honors:** Dean's List 5/6 semesters, Schreyers Honors College and Paterno Fellows Program, J. Wood Platt Caddie Scholarship, National Honor Society

**Interests:** Philadelphia Eagles and 76ers, Penn State Football, Skiing, Golf, Ocean Swimming